Learning for Development:

Factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh

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A thesis submitted in partial fulfilment of the requirement for the Degree of Doctor of Philosophy in Education

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December, 2020

Dedication

This PhD thesis is dedicated to my dear Nasim Mama. Nasim Ahmed Mollah was my mother's adoring little brother who died on 28 November, 2018. Despite of my numerous failures at life, Nasim Mama never lost faith in me. He was a man of few words but through his deeds he inspired me to be a better person.

Acknowledgements

With the name of
the most merciful

I am forever indebted to Emeritus Professor Janinka Greenwood. For not only being the senior supervisor of the study but for also being my mentor, friend and sometimes a mom. Her supervision improved me as a student as well as a human being. I am grateful to Associate Professor Billy O'Steen, for being the associate supervisor who provided sound ideas and feedbacks. I owe a huge debt of gratitude to the external doctoral examiners, Professor Jim Nyland, Associate Vice-Chancellor at the Australian Catholic University, and Dr Abdullah Mohd Nawi, Assistant Dean at the Universiti Teknologi Malaysia, for their constructive comments that improved the thesis.

When I arrived at UC as a naive PhD student, a flock of senior Bangladeshi PhD students took me under their wings. Dr Mahammad Abul Hasnat, Dr S M Akramul Kabir, Dr Muhammed Mahbubur Rahaman and Dr Md. Al Amin - thank you all. A big thanks to Dr Karna Rana who gave valuable advice on PhD and about life in general.

My Mother, Momtaz Begum, for always believing in me and putting my happiness before hers. My Father, Khondakhar Iftekher Mohammad Ekoo, for always looking the other way when I messed things up. Your unconditional love and support are my greatest strength. This PhD would not have been possible without the support of Naju Khala, Boro Khala, Pappu Mama, Boro Mama, Nana, Nani, Dada and Dadi who financed my education since early schooling years right through university.

This study would have been far more challenging and far less interesting had it not been for the kind and accommodating research participants. The majority of whom have been the victims of climate change. The marginal rural Bangladeshis and climate migrants dwelling in urban slums, have enriched me with their life stories. Without expecting anything in return, they have given me their time and opened up their lives to me. I am indebted to local community members and all the staff members and officials of NGOs, international development organisations and government agencies who have provided access to five development projects investigated in this study.

Abstract

This study investigates the factors that are responsible for making international development (ID) projects successful in rural and urban contexts in Bangladesh. In particular, it investigates five ID projects that are usually referred to as development projects, which have been implemented by various Non-governmental Organisations (NGOs), international development organisations, government agencies with help from foreign donors and the Government of Bangladesh, to assist marginal Bangladeshi communities to cope with climate change.

With the onslaught of climate change, these communities are needing to learn new ways of approaching traditional livelihood, make best use of limited resources and change their habits and practices. Sometimes they are compelled to migrate to urban cities and learn a new way of life. Many development projects are designed and implemented to assist these communities in learning so that they can address the demands of a changing climate. They have varying degrees of success. This study investigates five development projects that are reported to be successful.

This is a qualitative study utilising a multiple case study approach. The primary data collection method for understanding the factors responsible for the success of a development project includes semi-structured interviews with key project stakeholders, direct observation of real life practices, photographs, research journal and documents from relevant NGOs and development organisations. Stakeholders of the five development projects typically include project beneficiaries, staff members of implementing NGOs and international development organisations, relevant local government officials and local community members. Data from each of the five case projects have been presented in a narrative form that offers a thick description of the various endeavours of these marginalised communities to adapt with climate change.

The research process has been guided by an appreciative approach whereby the focus has been to look for stories of success, evidence of success, strategies applied for attaining success and other underlying elements responsible for positive changes. However, this study also identifies project elements that are considered ineffective and less successful by the project stakeholders.

Bangladesh is often considered as a development success story as the country experienced steady economic growth and decline in poverty incidences since the 1990s. However, owning to its unique geographic location, Bangladesh is one of the most vulnerable countries to climate change. Various effects of climate change have imposed formidable concerns on the lives and livelihood of millions of poor Bangladeshis. Especially in the rural areas, climate change is threating conventional livelihood such as agriculture, fisheries, various off-farm and non-farm occupations through subtle changes in the atmosphere and weather conditions. In many cases, people are forced to abandon their traditional habitat and profession, and migrate to urban slums in search of shelter and steady work.

As a result, a large number of development projects have been implemented to help these rural communities and climate migrants to adapt with climate change. The key objectives of these projects include: helping rural communities and climate migrant to modify, diversify or change livelihood to suit the climate; improving basic infrastructures of urban slums where climate migrants generally reside; empowering women; providing health and nutrition services; building vital infrastructures in waterlogged areas; improving access to government services and local markets.

Many of these development projects have delivered positive outcomes for the marginal communities. Consequently, many such development projects have been extended and expanded beyond their initial duration and area by the implementing agencies. The effectiveness of these projects has created a need to understand the underlying success factors that have made these projects work. This study intentionally reports from the grassroots with regards to how communities are coping with climate change. However, the analysis of the success factors may be relevant to other contexts that are facing similar threats from climate change.

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Chapter 1: Introduction

This thesis reports an investigation into what makes for successful development projects for marginalised communities affected by climate change in Bangladesh. As I discuss in detail in Chapter Two *development* is a contentious concept and development projects and their development partners, consultants and donors are often regarded with suspicion and criticised for either incompetence or self-interest or both, and sometimes the criticism is well deserved. Nevertheless, the impact of climate change on Bangladesh, and particularly on its already marginalised communities is enormous, and active interventions are needed. This study seeks to fill some of the gap in existing literature and contribute to knowledge about what makes some development interventions successful, it addressed the research question:

> What are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh?

I need to immediately acknowledge that this study did not to seek to evaluate success. I set out to select projects that were already reported to be successful by the agencies involved and their local government partners and whose beneficiaries also regarded them as effective. *Success* thus was conceptualised in terms of effective practical initiatives to help members of the affected community and reported satisfaction by the wide range of stakeholders, including beneficiaries, local government bodies and project management and staff. The aim then was to examine the work of each project in detail and identify factors that lead to its effectiveness.

The main body of this thesis consist of thick descriptions (Geertz, 1988) of each of the projects I finally investigated. These descriptions are constructed from statements from the range of stakeholders as well as from my own observations. They are accompanied by an emerging theorisation of the common factors across the cases that are productive of recognisably successful outcomes.

The title of this thesis emphasises *learning* as a key element in development. Learning, as will be discussed throughout the thesis, occurs in many ways. Firstly, the selected projects each involve beneficiaries learning new skills, either through courses or through practical experience. Secondly, in order to meet the needs of the communities they seek to help, each development organisation itself has to learn. Thirdly, because the projects all involve partnerships of some kind, all the stakeholders need to learn to communicate, negotiate and

collaborate. And fourthly, climate change is a relatively new and evolving threat and so presents growing and sometimes shifting challenges that highlight the need for continuous learning and re-learning as opposed to relying on previous practice. The theorisation that I will offer, therefore, is not intended to offer a template of specific project outcomes, but rather identify actions, relationships and attitudes that allow, enhance and consolidate the learning that lead to successful development.

The Problem that Needs to be Addressed

> "Intention and outlook, when you can bring changes to these two - your life will change, otherwise nothing will work"

This might appear to be words spoken by a self-help or motivation guru on YouTube. But these words were spoken to me by a rural Bangladeshi women from Shyamnagar Upazila[1]. Located in the south-western region of Bangladesh, with the Bay of Bengal to the south, the lives of the residents of Shyamnagar Upazila have been drastically altered by the slow encroaching salty hands of climate change. With the sea level rise triggered by climate change, saline water is slowly encroaching the farmlands of Shyamnagar. Other than that climate change is exerting tremendous pressure on different areas of Bangladesh in different ways. Many regions are experiencing prolonged floods and subsequent riverbank erosion. The drought condition is getting worse in northern Bangladesh, while the north-eastern *haor*[2] areas have become more susceptible to flash floods. If all these were not enough, southern coastal areas of the country are increasingly assaulted by cyclonic storm surges emerging from the Bay of Bengal. The onslaught of climate change has been more damaging for Bangladeshis living in rural areas. Climate change is slowly changing the weather pattern, the farmland and other elements that compel rural Bangladeshis to change their lives and learn new ways of securing livelihood. Though for some the changes have been too severe and they had to move to urban slums to look for accommodation and work. Marginal communities living in rural Bangladesh and climate migrants residing in urban slums are forced to modify their everyday life and learn new practices to cope with the changing climate.

This has prompted development agencies, Non-Governmental Organisations (NGOs), foreign donors and the Government of Bangladesh to directly provide an array of support to these

[1] Upazila (উপজেলা) is a form of administrative demarcated region structure used in Bangladesh, devised for ease of governance. Upazilas can be considered as sub-units or sub-districts of a District. There are 492 Upazilas in Bangladesh

[2] *Haor* (হাওড়) is a bowl-shaped ecosystem in north-eastern Bangladesh that stays inundated during monsoon. Detailed explanation of *haors* has been provided in Chapter Four

people. The support is often provided through international development (ID) projects that are implemented by international and local NGOs with the help of relevant government institutions and local community members. ID projects are normally referred to as development projects that are usually funded by foreign donors and sometimes the Bangladeshi government provides a portion of the funds. A multitude of development projects has been executed in rural and urban locations of Bangladesh to assist vulnerable communities so that they can adapt with climate change. Poor individuals or households are taken as beneficiaries in these development projects and they are given a host of teachings and provisions. Some projects provide training to farmers that assists them to embrace climate-suited agricultural practices. Beneficiaries with little to no land ownership are given teachings in suitable off-farm and non-farm livelihood. Development projects working with climate migrants in urban slums, enrol beneficiaries in technical and vocational skills enhancement courses with the hope of generating self or wage employment. Many projects, both in urban and rural settings, also emphasise on developing infrastructure, teaching better health and hygiene practices, encouraging women and youth empowerment, creating more communication channels with government agencies and a whole host of other important issues.

Many such development projects have been reported to bring positive changes that have helped the beneficiaries to cope with the effects of climate change. This thesis reports a research that explored four development projects implemented in four different rural locations and one project implemented in an urban city of Bangladesh. It addresses the following overarching research question: what are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh?

The Context and Rationale

A vast number of leading scientific society and individual climate scientists around the world are convinced that climate change is happening and it is caused by humans (Myers, Maibach, Peters, & Leiserowitz, 2015). Experts around the world have made this statement on the basis of surveys and peer-reviewed literature. IPCC (2014a) reported that human induced greenhouse gas emissions, driven by population growth and economic activity are higher than ever before. The increased concentration of greenhouse gases in the atmosphere and combined with other anthropogenic drivers are responsible for the global climate change. There is global consensus that climate change is responsible for increased weather hazards

such as cyclonic storms, flooding, melting of ice covers, droughts, higher temperatures, changes in rainfall pattern and increased sea surface temperature (Janković & Schultz, 2017; Özokcu & Özdemir, 2017; Rawat et al., 2020). The effects of climate change vary from country to country but the poorest people from developing countries tend to suffer the most (Ayeb-Karlsson, Geest, Ahmed, Huq, & Warner, 2016; Rakib et al., 2019). One of such developing country is Bangladesh.

Once labelled as 'the test case for development', Bangladesh has been recognised to progress significantly in terms of economic growth and social development (Asadullah, Savoia, & Mahmud, 2014). The turnaround began in 1990s with the return of democratic rule and widespread economic reforms lowering poverty incidences from 60% to 30% (Al-Muti, 2014). Over the past couple of decades the country's economy has steadily grown with an average of 5% each year. In the social indicators front, Bangladesh has shown impressive reductions in illiteracy, inequality, fertility rate, child and maternal mortality and other metrics (Masud-All- Kamal, 2013). Scholte (2014) noted a number of underlying reasons for the development of Bangladesh. Firstly, governance, despite the prevalence of corruption and partisanship, the state apparatus never lost its focus on different development goals. Then, Bangladesh has a strong civil society presence that has led to the creation of many influential NGOs who regularly supplement governmental actions and inactions. Thirdly, Bangladeshi entrepreneurs have built strong enterprises and businesses. Then, international donor agencies and development organisations have played their role accordingly by supporting well thought-out development projects.

However, Bangladesh is a densely populated country of 162 million people and covering a mere area of 147,570 square kilometres (BBS, 2018), with 31% of its population still living below the poverty line earning less than US $2 per day (G. M. M. Alam, Alam, & Mushtaq, 2017). The country has become increasingly vulnerable to various threats imposed by climate change and is being confronted by an increasing number hazardous climatic events (Glennon, 2017; MoEF, 2009). The perils of climate change are more critical for the millions of Bangladeshis living in rural areas since climate change is endangering their lives and livelihood. About 60% of the rural population are either farmers or fishermen (Parvin, Shimi, Shaw, & Biswas, 2016). These Bangladeshis are generally poor; their livelihood chiefly dependent on agriculture, fishery and livestock rearing; they have to work harder and longer hours to earn a living; they have little or no access to healthcare and reside in the most vulnerable and remote places. Climate change is making gradual changes in rainfall pattern,

increasing intensity of floods, drought and salinity that are detrimental to agriculture, livestock and fishery sectors (Ferdous, Gazi, Abul, & Che, 2013; T. S. Thomas et al., 2013). As a result, people in rural areas are forced to modify conventional livelihood and look for additional income sources to adapt with climate change. Though rural Bangladesh is dominated by on-farm livelihood, villagers do get involved in off-farm and non-farm ventures. But farming is crucial because growth in the non-agricultural sectors are closely dependent on the growth of agricultural activities (Toufique & Turton, 2002).

But for the poorest with no assets or resources, the only feasible option is to migrate to urban cities. With very meagre financial strength, climate migrants take refuge in the slums and look for wok to sustain themselves. Of all the residents of various slums of Khulna and Rajshahi, two large cities of Bangladesh, 70% were found to be climate migrants (Price & Taylor, 2016). Most major cities of Bangladesh are growing rapidly because of rural to urban migration. As a matter of fact Bangladesh is one of the countries that are experiencing one of the highest rates of urban population growth (Jahan, 2012). Driven by a host of natural calamities, big cities are experiencing unprecedented urban population growth, estimated to be 4% in 2015, which is among the highest in the world (UNICEF, 2019). But this trend of urban movement are creating more problems because the slums have developed without any planning and are unable to support the influx of people. The slums are characterised with unavailability of safe drinking water, lack of sanitation and hygiene facilities and overpopulated living arrangements (Rahaman, Rahman, Bahauddin, Khan, & Hassan, 2018). Such unhealthy and congested living conditions make the slum dwellers vulnerable to various disease and health issues. Moreover, city life offers very few livelihood option to climate migrants since they have very little skills other than agriculture and farming. They resort to daily jobs that have no job security or guarantee of continued work (R. Ahsan, Kellett, & Karuppannan, 2016). Climate migrants get involved in various informal work that are low pay and have no provisions for benefits or holidays. As a result, they have to work longer hours and often every day to make ends meet. A typical climate migrant's dream of having a decent life in a city fades with time.

Be it in the remote villages or in urban slums, adaptation to climate change has become indispensable for millions of impoverished Bangladeshis. These communities are disproportionately affected by climate change, yet they have the least amount of capacity and resources to adapt to it (Ayers, Huq, Faisal, & Hussain, 2014). The Government of Bangladesh, NGOs and international development partners are aware that the effects of

climate change are restraining the economic progress and threating the livelihood, food security and overall wellbeing of the poorest communities. All these serious threats have compelled the Bangladeshi government, various international donors, NGOs and their local partners to work with the concerned communities and develop pathways for resilient livelihoods and reduce vulnerability to climate extremes and uncertainties. Consequently, many development projects have been implemented in various rural and urban areas of the country to provide direct support to vulnerable communities. These projects involve: agricultural projects in *haor*, sandbars and flood prone areas, livelihood support projects in drought prone and coastal areas, infrastructure development projects in climate affected areas, community empowerment projects and others.

Many of such projects have been successful and have become a source of relief for the embattled people in rural villages and city slums. Achievements of these projects are well reported in terms of number of project beneficiaries, nature of training and resources provided, and attainment of objectives in annual and project reports of implementing NGOs and donor agencies. But a critical gap exists as these reports do not to investigate and communicate the underlying factors or elements that make these projects successful. There is a lack of information within the development community with regards to factors that facilitate people to cope with climate change (Biggs, Tompkins, Allen, Moon, & Allen, 2013; Sherman & Ford, 2013). By investigating five development projects this study reports the factors that operate to bring about success for development projects, which bring positive changes to the lives of the project beneficiaries.

Coping and Learning through Development Projects

Youker (2003) noted that international development (ID) projects that are usually referred to as development projects "involve a number of different actors including donor agencies, (often more than one), government organisations at several levels, consultants, contractors, trainers, evaluators, researchers, and local beneficiaries including local organisations" (p.1). These projects are generally funded through soft loans or outright grants or the combination of both. Ranging from small to extra-large, development projects are implemented in various developing countries across many continents (Ika, 2012), with the objective of targeted social and economic improvement (K. Ahsan & Gunawan, 2010). In the past couple of decades, hundreds of development projects have been implemented in Bangladesh for reducing poverty, illiteracy, and malnourishment; while improving sanitation, women empowerment, infrastructure and other sectors. Recently, the Government of Bangladesh, foreign donors,

international development organisations and their local partners have channelled considerable funds in development projects with specific goals of addressing climate threats. These development projects assist vulnerable groups in adaptation to climate change through increasing livelihood resilience and reducing vulnerability to climate hazards and other contextual threats.

Adaptation nowadays get similar attention as climate change, which represents actions taken by people to cope with climate impacts (Adger, Huq, Brown, Conway, & Hulme, 2003). Adaptation measures increase people's resilience and reduce vulnerability (Abedin, Collins, Habiba, & Shaw, 2019). Marginal communities in Bangladesh rely on conventional knowledge to adapt to climate change. They rarely have access to advanced technological solutions and are mostly dependent on time-tested knowledge and experience that they have accumulated over long time through adapting to changing environment. But various weather hazards such as floods, riverbank erosion, cyclones, drought induced by climate change have made their livelihood instable (Warner & Van der Geest, 2013). Climate change have imposed more stress on vulnerable groups that were already struggling from poverty, illiteracy, lack of housing, malnourishment and shortage of food (Leighton, 2011). Marginal rural and urban communities in Bangladesh have a limited amount of adaptive capacity, which consists of knowledge about climate change and access to technology and relevant support institutions (Adger et al., 2003; G. M. M. Alam, Alam, & Mushtaq, 2016). Marginal communities do not have enough adaptive capacity needed to cope with climate change. Moreover, being a developing country, Bangladesh lacks formal institutional setup to provide adequate support and training to these people. Development projects are being implemented to fill some of this gap.

Vulnerable and impoverished people enrolled in development projects, are provided with cost-free resources, training sessions, consultation and various support. A major component of these projects involve activities targeted for improving livelihood resilience, which is defined as the ability of individuals and community to improve livelihood opportunities and have the capacity to thrive under difficult environment (Gwimbi, 2009; Tanner et al., 2015). For strengthening livelihood, some development projects emphasise more on improving autonomous adaptation activities, some projects focus more on planned adaptation measures, while some contain a combination of both. Autonomous adaptation are formed from perceptions and experience that people learn gradually from their environment (Fenton,

Paavola, & Tallontire, 2017), while planned adaptation measures include deliberate actions to alleviate harmful impacts of climate change (UN-HABITAT, 2011).

I was interviewing Jainab, a female farmer from Islampur Upazila, who was a beneficiary of one of the projects I investigated. She told me about the changes in her life because of climate change:

> Sometimes you can't plant paddy seeds because of lack of water and you are dependent on shallow machine for irrigation. But there was a reliable rainfall pattern, winter used to arrive on time before. All agriculture related activities were dependent on weather conditions that were regulated by Allah. Now we can't feel the bite of winter. You don't see rainfall when it is supposed to rain and it is either too much rain or drought.

Four development projects investigated in this study, worked with such farmers, livestock owners, small traders and housewives of rural Bangladesh. These projects took these people as beneficiaries and provided training and teachings on: maximum utilisation of scarce land resource, encouragement to embrace new practices, usage of underutilised assets, fostering alternative livelihood to agriculture, promotion of profitable livelihood, making traditional livelihood more profitable, selling produce and motivating teamwork among beneficiaries. I investigated another development project implemented in an urban city, which trained climate migrants in various technical and vocational livelihood suitable for a city life. All the above activities emphasise on strengthening livelihood so that beneficiaries can have a stable source of income.

However, having stable livelihood or income does not entirely ensure coping with climate change. The elements responsible for making an individual or community vulnerable to climate threats need to be addressed as well. Vulnerability can be understood as the conditions dictated by physical, socio-economic and environmental processes that determine an individual's or community's susceptibility to harmful effects of climate change (IPCC, 2014b). Assessing and addressing vulnerability provide a stronger foundation for strengthening livelihood. Because having secure livelihood would not help much when an individual or community suffers from poor health standards and sanitation facilities, malnourishment, lack of mobility and empowerment, infrequent access to government facilities or little awareness of weather information. Some of the projects investigated in this study also worked on diverse issues such as: women empowerment, health and nutrition,

constructing vital infrastructures, access to government extension services, improve accountability of local government institutions and formation of highly effective committees.

The five projects investigated in this study are as follows: (a) Reduce climate vulnerabilities through advance agricultural technology in the south west coastal region of Bangladesh or referred to as the Reclaim project; (b) Haor Infrastructure and Livelihoods Improvement Project (HILIP); (c) Urban Management of Internal Migration due to Climate Change (UMIMCC) project; (d) Pumpkins Against Poverty (PAP) project; and (e) Strengthening Household Ability to Respond to Development Opportunities 3 or referred to as the SHOUHARDO III project. The Reclaim project, UMIMCC project and SHOUHARDO III project have been presented in Chapter Five, Chapter Six and Chapter Seven respectively. While the PAP project and HILIP project have been presented together in Chapter Four. Background, objectives and climate threats addressed by each of these projects have been discussed in their respective chapters. The following figure shows the location of each project investigated in this study.

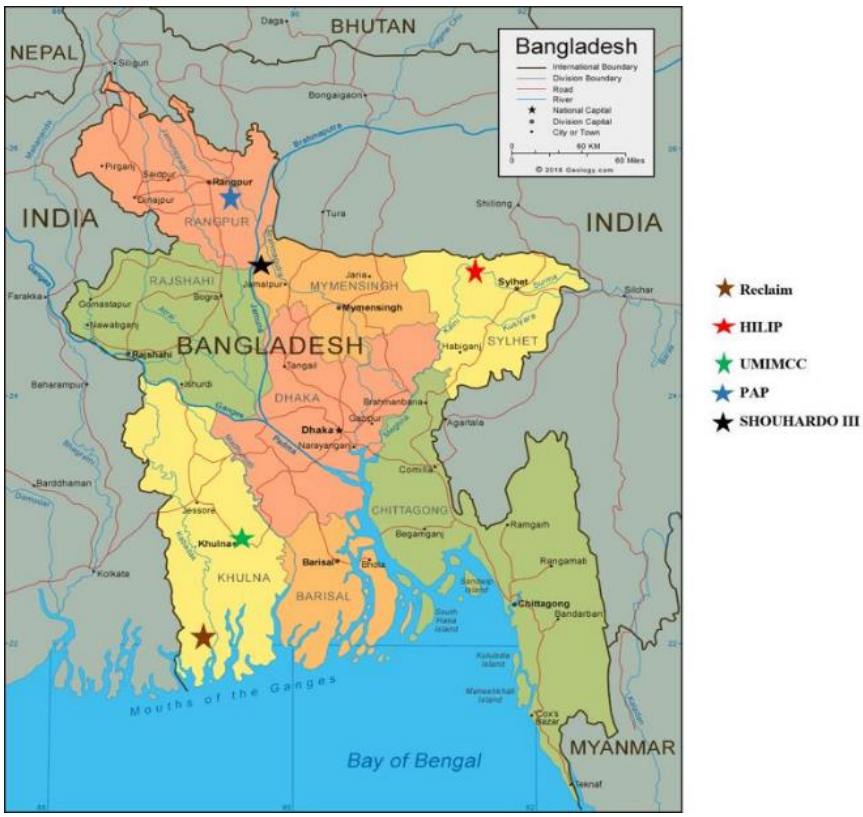

Figure 1.1: The study sites marked with stars

Source: Adapted from https://geology.com/world/bangladesh-satellite-

My Own Positionality

As I investigated the projects implemented in different areas of the country, I got the opportunity to interact with people who are bearing the brunt of climate change. The study is grounded in the actions taken by these people to negotiate with the harmful effects of climate change with help from development projects. The study places empirical data I collected within the scope of each project in their respective locations. The project chapters showcase the collective endeavour of project beneficiaries, staff members of implementing and coordination NGOs, officials of relevant government institutions and members of local community. I can be considered as an outsider with regards to these development projects. I have never been associated with any of the NGOs or development organisations (local and international) responsible for implementing the studied projects. I went into each project site as a field researcher with an outsider's eye hoping to collect and analyse evidence. But I can also be considered as an insider, being a development professional with experience of working in projects, though implemented in the past in other locations through different NGOs and donors. Being a Bangladeshi, I did have some awareness of the local context of each of the projects. As an insider, I was able to understand various issues raised by project stakeholders. Donning the outsider's hat, I took a step back from the issues to use a more analytic lens while still being empathetic.

What I observed to transpire in each project site, was encouraging. These marginal communities are not responsible for creating the global problem of climate change. They have been dealt a bad hand that forces them to face the consequences. I have observed and spoken with project beneficiaries who have been able to cope with climate change. Their inherent resilient nature combined with the sensible assistance from these projects are enabling them to cope successfully. Climate change causes changes in land, water and overall environment. Development projects are engaging people in makeshift classrooms emerging in the farmlands, house yards, rural meeting places and formal training institutes. Through these grassroots classroom approach, beneficiaries are given practical lessons and teaching on using different land forms, changing habits, trying something different, adapting something old and utilising their indigenous knowledge. Some of the projects have formed functional groups with likeminded beneficiaries, which is facilitating exploratory learning. I have come across highly skilled beneficiaries who helped the projects to be more impactful. Perhaps it is not possible to overcome climate change but beneficiaries are surviving them and sometimes they are thriving. Teachings are not only limited to livelihood aspects, but they extend to

social arenas as well. Traditionally subjugated women have become more vocal, independent and self-reliant through engaging with some of the projects.

These development projects, by teaching, learning, co-learning and exploring new avenues, are assisting marginal communities to better address the demands of climate change. Though, some projects have been more impactful than others. The effectiveness of these development projects has prompted me to investigate the underlying success factors and elements responsible for bringing positive changes. It is crucial to identify and discuss these factors so that they can be used for designing future projects.

A Basis for my Emerging Theorisation

Although I examined and learned from a range of theorists who examine organisational and community learning, I have particularly drawn on a theoretical framework originally developed by Greenwood and Te Aika (2008) in *Hei Tauira: Teaching and learning for success for Māori in tertiary settings.* What interested me originally in the findings of *Hei Tauira* was twofold. Firstly, there was a significant cross-cultural component in the study: New Zealand tertiary institutions follow western academic traditions and management practices and so cultural shifts are needed to meet the needs and expectations of the indigenous Māori people. I saw a similar challenge facing foreign-based NGOs and development organisations working with marginalised communities in Bangladesh. Secondly, Greenwood and Te Aika had elected to focus on examples of success whereas, in their words, "discussion of Māori educational achievement is often framed in terms of underachievement in terms of the population as a whole" (p.7). They noted that "while this discussion has positve intentions it is limited in that it focuses on the gap in achievement rather than identifying what success looks like " (p.7). I saw a parallel need for examination of what success looks like within the work of the development sector in Bangladesh.

In 2018 Professor Janinka Greenwood, the senior supervisor of this PhD, and I were invited by an international development organisation who implemented one of the projects I investigated to discuss the project in the Third Annual National Conference on Urban Resilience to Climate Change, which was held in Dhaka, Bangladesh. I was requested to present my observation and findings from the project, while Professor Greenwood was requested to offer a theoretical framework for analysing success factors for development projects. After reviewing my initial findings from the field and discussion with the team leader of the organisation, Greenwood (2018) proposed an adaptation of model that emerged

from the *Hei Tauira* findings, extending concepts from the particular New Zealand context to ones that were more abstracted and illustrating them from the Bangladeshi context with which she was somewhat familiar. The theorisation was well received in Dhaka, and Greenwood (2019) further developed it for a symposium involving us and the project team leader (who had since been transferred to another country) in the European Conference for Education Research in Hamburg in 2019.

I have taken the framework from 2018 Dhaka and 2019 ECER conferences and further adapted it to accommodate the findings and contextual knowledge from all five projects investigated in this study. The theoretical framework containing overarching success factors and sub-factors has been presented in Chapter Eight. Bangladesh being one of the most vulnerable countries to adverse impacts of climate change and despite the contribution of development projects in addressing some of these impacts, there has been little revelation or research in this area. This study, therefore, presents some success stories and lessons, and a few *un*-successes too, from the literal grassroots of Bangladesh.

An Outline of Chapters to Come

This chapter has explained the background, rationale and intentions of this study. Chapter Two discusses the context of the study drawing from related literature. Chapter Three details the methodological framework utilised in the study. The next four chapters provide rich descriptions of the five development projects investigated. Chapter Four showcases two partially successful projects, PAP and HILIP, while discussing their shortcomings. Chapter Five details the Reclaim project that was implemented to assist people suffering from increasing levels of salinity. Chapter Six presents the UMIMCC project that was implemented to improve work ability and living conditions of climate migrants taking refuge in an urban city. Chapter Seven showcases the SHOUHARDO III project that is working to improve livelihood and other aspects of people residing in flood prone areas. Chapter Eight offers an emergent theoretical framework for successful development projects with regards to climate change in Bangladesh. Finally, Chapter Nine concludes the thesis by summarising key aspects and significance of the study with policy recommendation and directions for further research.

Chapter 2: Context of the Study drawing on a Review of Related Literature

In this chapter, I review literature and theorisations relevant to the context of this study. The first part of the body reviews research and literature focusing on global impact of climate change. Then, I review international works on concepts of development with a focus on international development (ID) projects, the complexities of ID projects and the involvement of Non-Governmental Organisations (NGOs) in development. After that, I review literature about the impacts of climate change on global poverty and development. Then, I review literature showcasing climate change impacts in Bangladesh. Finally, I review literature about NGOs in Bangladesh and initiatives taken by the development community to address climate change threats.

Climate Change

Climate change is fast becoming the most pressing issue of this century. With the rise of global temperature and sea level, climate change is threatening people across the world. Pointing to the urgency of the matter, IPCC (2014a) noted that "climate change will amplify existing risks and create new risks for natural and human systems" and that the "risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development" (p.13). Since climate change poses a legitimate threat to our way of life that we have grown accustomed for thousands of years, it has become obvious that climate change and its aftermaths must be understood and given due consideration. Deeb et al. (2011) argued that to understand climate and climate change, it is useful to recognise the difference between weather and climate. They extended that weather is experienced on a daily basis consisting of wind, precipitation and temperature which are momentary atmospheric states, and weather varies on a daily basis in an irregular way and it does not follow any particular pattern. Oppenheimer and Anttila-Hughes (2016) noted that climate and weather are often confused with each other and that confusion can lead to serious implications. They informed that weather denotes to the atmosphere and behaviour of Earth's oceans over a short period of time. Weather can be referred to as temperature, precipitation, wind, storminess that are experienced during any given day, week, month or year, while climate denotes to the behaviour of weather over longer period of time such as decades (e.g. annual mean temperature averaged for a particular geographic region).

According to the United States Environmental Protection Agency (EPA), global warming is one of many aspects of climate change that reflect the recent rise in the global average temperature near Earth's surface, which is chiefly caused by increased concentration of greenhouse gasses in the atmosphere (EPA, 2017). National Research Council (2012) noted that in the past 100 years, Earth's average surface temperature has seen an increase of more than 1.4°F (0.8°C). The majority of this increase has taken place in the past 35 years. In terms of daily or seasonal fluctuations, 1.4°F temperature change does not seem that significant. However, it is an alarming scenario when the change becomes a permanent increase averaged across the world because "a decrease of only 9°F (5°C) in global average temperatures is the estimated difference between today's climate and an ice age" (p.4).

But the trend of warming that we are experiencing can be attributed to higher concentration of heat-trapping greenhouse gases (GHGs) in the atmosphere such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) (Deeb et al., 2011). Hope, Canty, Salawitch, Tribett, and Bennett (2017) also corroborated that the rise in global mean surface temperature (GMST) is caused by increasing levels of greenhouse gasses. Human activities which consist of burning fossil fuels (e.g. oil, gas and coal), deforestation, agricultural practices, landfills and natural gas distribution led to increased GHG emissions in the atmosphere. IPCC (2014a) noted that driven by economic and population growth, anthropogenic greenhouse gas emissions are rising since pre-industrial era. IPCC (2014a) also highlighted that "this has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years" and that "their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century" (p.4).

But greenhouse gasses (GHGs) are crucial for the sustainability of Earth. The Earth is often referred to as the "Goldilocks" planet because it is not cold or hot, and the conditions are just right to allow life (NASA, 2020). Apel, McDonell, Moynihan, Simon, and Simon-Brown (2010) articulated that greenhouse gases (GHGs) in the atmosphere trap solar radiation from the sun which makes the Earth warm and habitable. The greenhouse gases are essential for life because without it, Earth would not sustain life by becoming much colder (about 32° Celsius or 57.6° Fahrenheit) and drier (Oppenheimer & Anttila-Hughes, 2016). Greenhouse gasses create the greenhouse effect that traps heat close to Earth's surface. NASA (2020) noted that greenhouse gasses are heat-trapping gasses that can be considered as Earth's

blanket and these gases keep the Earth toastier than it would be without them. These gasses arise naturally and are integral part of Earth's atmosphere. Without GHGs the Earth would be too cold to support life but too much GHGs in the atmosphere are capable of destabilising the climate and causing severe consequences.

Deeb et al. (2011) noted that the Earth receives an enormous amount of energy between the tropics of Capricorn and Cancer in the form of solar radiation from the sun. However, the Earth is shaped like a sphere, and less solar radiation is received by north and south poles and more solar radiation is released or reflected back to the space. So the equator would be incredibly hot and the poles would be far too cold. Both the equator and the poles should be inhospitable to life but they are sustaining all living species. The equator has a continual surplus of energy (which makes it hot) and the poles have continual deficit (which makes it cold). Fekete, Pisacane, and Wisser (2016) explained that the atmosphere consisting of different greenhouse gases, utilises various elements of the weather systems (i.e. cyclones, storms and weather fronts) to circulate energy from the equator to the poles. In addition, the climate system by using air, vapour and ocean water somewhat balance out surplus and deficit of heat and energy around the Earth thus supporting life.

Deeb et al. (2011) emphasised that for long periods of time the climate system remains stable as long as various elements within the system remain stable. But the stability of the whole system can be compromised if one or more of the elements of the system is altered. NASA (2007) noted that greenhouse gasses in Earth's atmosphere resemble glass in a greenhouse that allows sunlight to pass into the greenhouse and blocks Earth's heat from escaping into space. But human activities on Earth have gradually altered and increased natural greenhouse gasses. This has resulted in abnormal behaviour of weather that is not within a normal range of expectation that is known as climate change (Upadhyaya, 2016), and that "human activities have contributed substantially to climate change by adding carbon dioxide (CO_2) and other heat-trapping gases to the atmosphere" (p.8).

Earth's climate has experienced minor shifts since its existence but the climate change we are experiencing now is mostly caused by the activities of human. Since the beginning of the industrial revolution in 1750s, human beings have been contributing increasing amounts of GHGs in the atmosphere. United Nations Framework Convention on Climate Change (UNFCCC, 1992) articulated in its Article 1 that "climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the

global atmosphere and which is in addition to natural climate variability observed over comparable time periods" (p.7). Myers et al. (2015) noted that "human-caused climate change is happening" (p.1), and this notion is accepted by nearly all climate scientists who have been convinced through expert surveys and peer-reviewed literature. The study of ice core have led scientists to discover that the atmospheric concentration of GHGs such as methane (CH_4), carbon dioxide (CO_2), and nitrous oxide (N_2O) are much more (148%, 36%, and 18% respectively) than they have been in thousands of years. Carbon dioxide (CO_2) is the most significant GHG released by human activities and now the atmospheric concentration of CO_2 far exceeds the natural range for the past 650,000 years (Apel et al., 2010).

EPA (2016) noted that global emission of all major GHGs increased between 1990 and 2010, while a 42% increase in net emissions of carbon dioxide (CO_2) has been observed (figure 2.1). This is particularly important since carbon dioxide (CO_2) accounts for almost three-fourths of global GHG emissions. Emissions of other GHGs such as nitrous oxide (N_2O) and methane (CH_4) increased by 9% and 15% respectively between 1990 and 2010. Consequently, the largest source of GHG emissions worldwide are energy production and usage (which includes fuels used by vehicles) that counts for 71% of the total, while agriculture accounts for 13% in 2010 (figure 2.2). The reasons behind this CO_2 increase is population explosion, changing forests into cities, turning vast acres of desert land into irrigation based farming, and the excessive use of resources to maintain all this. Although the issue of climate change remains a highly debated and contested matter, the facts regarding global warming and the influence of human activities in increasing global warming are undeniable.

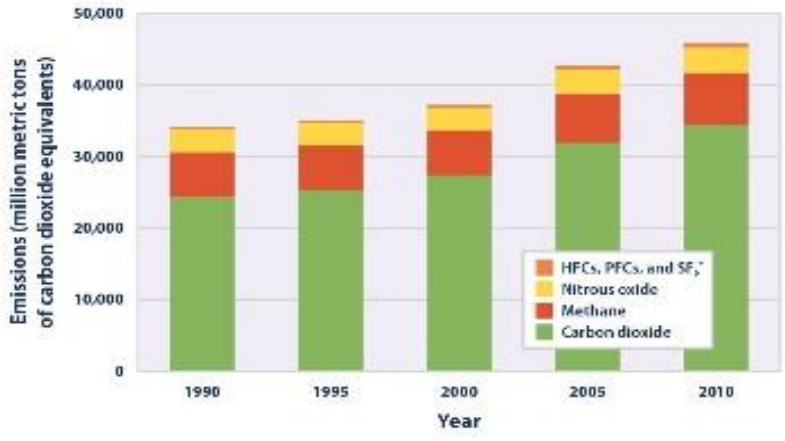

Figure 2.1: Global greenhouse gas emissions by gas, 1990–2010. Source: EPA (2016)

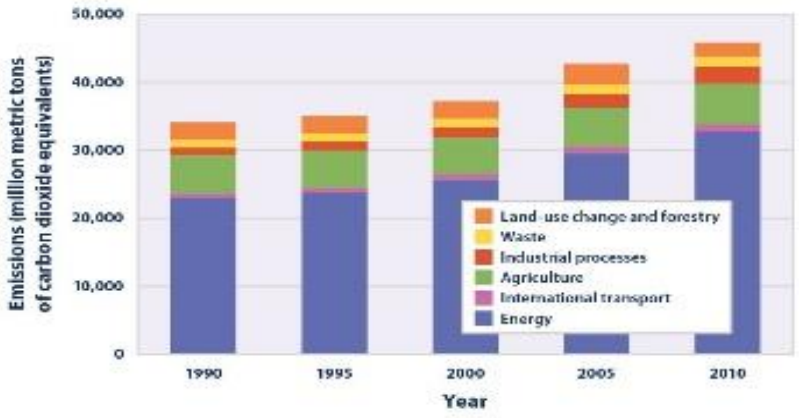

Figure 2.2: Global greenhouse gas emissions by sector, 1990–2010. Source: EPA (2016)

Hansen and Cramer (2015) illustrated that recent climate change impacts have been well documented across all regions, natural and human systems of the world. Deeb et al. (2011) argued that the warming of the planet will cause a number of climatic pattern to change at unprecedented speed such as rise of sea level at increasing rates, increased ocean acidity because of growing concentration of carbon dioxide and changes in the hydrological cycle. Additionally, various climate change effects are already causing frequent and more extreme weather events, hampering food production though changes in plant growth cycle, loss of living species that are unable to migrate or adapt to changing environment, changes in the flow of ocean currents and greater spread of infectious diseases. Elmhagen, Eriksson, and Lindborg (2015) suggested that climate change will play a pivotal role in global biodiversity loss in the 21st century. The structure and functions of ecosystems are changed because of biodiversity loss, which results in changes in ecosystem services deliver that can affect human societies (Cardinale et al., 2012). These changes threatens coastal cities and communities, forests, mountain environments, marine and freshwater ecosystems, worldwide food and water supply. Pointing to the urgency of the matter, Janković and Schultz (2017) noted the following joint statement of some prominent climate scientists and authors "more frequent and more severe extreme weather events are more likely to destabilize ecosystems and cripple essential components of human livelihood, such as food production, transportation infrastructure, and water management" and that "death, disease, displacement, and economic hardship may follow, as we have seen with recent hurricanes, floods, heat waves, and droughts" (p.28).

The international literature on climate change strongly affirms the certainty of climate change and its inevitable enormities. However, effects of climate change manifest varyingly by

regions and countries, and people in developing countries are more vulnerable to climate change impacts than people residing in developed countries (Arnell et al., 2016). Hamstrung with pre-existing conditions such as poverty, illiteracy, hunger, malnourishment and other difficulties; developing countries have to face numerous unprecedented challenges imposed by climate change. The development community, with support from local, national and international sources; help developing countries with these pre-existing conditions, albeit with varying degree of success. Consequently, development has a significant role to play in the fight against climate change.

Concepts of Development

Development is a highly contested and argued term. Although development generally refers to economic growth, it is also closely linked with modernity and progress. It can be also be equated with bringing a 'positive change'. But what is 'positive change', for whom and who decides it- go to the heart of the politics of development which prompted many theorist to analyse the failures of the post-war development projects. McKay (2004) argued that development cannot be separated from beliefs and dominant practices of their time. He points out that concept of development goes back to the time of enlightenment thinking and with its desire for an ideal society and progress. Development is central with issues concerning European expansion and colonisation. He further argues the construct of development as it is perceived today is about sixty years old and is closely associated with the end of the Second World War. Lewis (2005) linked development with bringing in 'planned social change' through outside interventions by a group of people in the lives of others. This often happens in the form of a project or programme which is part of conscious endeavour carried out by outsiders to intervene in a less developed community or country to bring positive change. But radical critiques view development as a system of power and practice employed by the West to continue the colonial and neo-colonial domination of poor countries.

McKay (2004) further argued that the nature of development and how to attain it, is a central issue in the Western social science. He highlights influential early writers in this field such as John Stuart Mill and Karl Marx, who were practically theorising the ideas of development. The Enlightenment thinking was concerned with the fostering of rational thinking, policies and actions to ultimately achieve an ideal society. But similar ideas of progress can be found outside of Western thoughts. In Japan, Morris-Suzuki (1989) pointed to a unique approach to economics which stressed on the importance of good governance and relieving people's sufferings. Du Pisani (2006) noted that the modern development thought emerged with the

end of the World War II, which was accompanied with a huge economic expansion that created global optimism for improving living standards. However, this economic boom came at an expense that "during this period of industrial and commercial expansion that the environmental crisis started looming larger on the horizon, forcing people to change their basic assumptions about growth and development" (p.87). McKay (2004) noted that during this time a number of institutions and plans were generated to avoid the economic and social problems that underpinned a global conflict. This led to the generation of Marshall Plan to reconstruct Europe, a similar plan to reconstruct Japan, the establishment of the World Bank and International Monetary Fund. Since then development thought has been going through numerous changes reflecting the ebb and flow of changing situations and emerging debates.

Lewis (2005) argued that development was viewed with an emphasis on economic progress and modernity after the end of the Second World War. The idea behind this was that the fruit of economic growth will 'trickle down' to the poor. This is known as modernisation theory, proposed by the US economist W.W. Rostow, under which all poor nation would achieve a modern standard of living or westernisation if they implemented the same growth policies adopted by the Western nations. This notion holds that low income countries have to go through a series of development stages to reach a point of 'take off'. Financial investments, modern technology and good governance would set low income countries on a course of sustainable growth. Du Pisani (2006) noted that modernisation theory was rejected by the dependency theorists who argued that "the 'core', i.e. the Western centres of power, maintains its control over the 'periphery', i.e. the former colonies, even in the post-colonial age" and that "capitalist development leads to an ever-widening gap between rich and poor" (p.88). The dependency theorists argued that peripheral economies were exporting cheap raw materials to rich industrialised nations under unequal trade terms that resulted in their underdevelopment. McKay (2004) noted that much of this line of thought came from Raul Prebisch which is known as the 'Prebisch thesis' that argued "propositions that were essential for the achievement of trickle-down effects, did not exist in the real world" (p.54).

Di Marco (1972) opined that there was no perfect marketplace consisting of small producers and buyers where none was able to exert power over the other. Rather trade took place between rich developed countries and weak poor countries, and the terms of trading were systematically manipulated to favour powerful western corporations benefitting the already rich countries. Lewis (2005) argued that dependency theory lost influence in the 1980's as it was attacked for a number of reasons. Relative to feudalism, dependency theory

oversimplified Marx's idea about the progressive and destructive force of capitalism. It downplayed the strategies employed by individuals and corporations that they used to resist and renegotiate their structural positions in the global market. It also did not provide any solutions to the issues of underdevelopment and poverty.

Matthews (2004) reported that frustration with the levels of global inequality, poverty and exploitation led some of the theorists to declare development obsolete and to look for alternatives to development. Post-development theorists suggested that development goals and assumptions must go through a radical rethinking and that "post-development theory pronounces the demise of development and urges for 'alternatives to development' rather than alternative development" (p.373). Illich (1968) in his speech 'To Hell with Good Intentions' talked about the futility of volunteer work in front of young Americans who were about to travel to Mexico. Illich said, *"I did not come here to argue. I am here to tell you, if possible to convince you, and hopefully, to stop you, from pretentiously imposing yourselves on Mexicans."* Illich opined that the American have no idea about the culture and local context of Mexico and nothing can be achieved in a few months and the volunteers will do more bad than good. Sachs (1992) compared development to a "*towering lighthouse*" that "shows cracks and is starting to crumble" and that "the idea of development stands like a ruin in the intellectual landscape" (p.1).

This complete rejection of development by post-development theorists have faced accusations that post-development theory only offers destructive criticism instead of constructive ones. Matthews (2004) opined that "Sachs' metaphor of a crumbling lighthouse could be used by critics of post-development theory to argue that even a crumbling, malfunctioning lighthouse is better than having no guiding light at all" (p.373). Nederveen Pieterse (2000) viewed post-development and 'alternatives to development' as flawed positions but not as flawed sensibilities, and that "'Alternatives to development' is a misnomer because no such alternatives are offered" (p.188). Nustad (2001) argued that though post-development theory does not offer comprehensive details of 'alternatives to development', the theory should not be rejected as a whole because "at its best, 'post-development' offers an explanation of why so many development projects seem to fail" (p.479).

Lewis (2005) informed that although development has been primarily associated with economic growth but it has been widely recognised that development goes well beyond the

wellbeing of a particular economy. Other important issues such as income and wealth distribution, recognition of human rights and social welfare or ethical use of finite environmental resources must be taken into consideration. For an example, the Human Development Index (HDI) developed by the United Nations Development Programme (UNDP) in the early 1990s, to some extent, attempted to combine gross domestic product (GDP) with life expectancy and educational attainment. United Nations (2015) mentioned that the Millennium Development Goals (MDGs) were enacted by world leaders to fight global poverty and its many dimensions. The MDGs were used as the overarching development framework for the entire world during 2000-2015 that consisted of eight inspiring goals or targets along with an array of practical steps. Ban Ki-moon, the former Secretary-General of the United Nations stated that MDGs assisted people globally to improve their lives and future prospects, which "helped to lift more than one billion people out of extreme poverty" and "to make inroads against hunger" (p.3).

World Bank (2015) reported on the MDGs that the first goal of the MDGs (eradicate extreme poverty and hunger that intended to reduce extreme poverty by half) was achieved by developing countries five years before the 2015 deadline. The report indicated a reduction of extreme poverty rate to 13.4% by 2015, which is a reduction of more than two-thirds compared to the estimate of 43.6% in 1990. Ritchie and Roser (2018) argued that though the majority of the MDGs were not met by 2015, the world made significant progress: less people are hungry now, more children are in schools, more women have access to contraceptives and reproductive healthcare, nearly halved maternal mortality and more than halved infant mortality rate. ODI (2016) reported that many developing countries have improved wellbeing of their people despite facing considerable challenges in the form inequality, conflicts and climate change. The report noted development assistance as one of the key catalysts responsible for this improvement in many developing countries.

The literature regarding development comes mainly from authors who are generally critical of development initiatives and assistance. Lewis (2005) argued that there is a lot of literature explaining the ways in which development fails but little research attempting to understand why sometimes development succeeds. Another stream of literature comes from government agencies, bilateral and multilateral donors, international and local Non-Governmental Organisations (NGOs) responsible for implementing international development (ID) projects. These are mostly project reports that cover issues such as baseline study of the project area and targeted beneficiaries, nature of the deficiencies the ID project aims to address,

achievement of project targets, number of beneficiaries enrolled, project coverage, number of benefits or training provided to the beneficiaries, project and administrative expenditures. From my own working experience as a Bangladeshi development professional, such reports (which can be monthly, quarterly or annual reports) prudently exhibit the above mentioned issues but there is very little interest to investigate the underlying factors responsible for the success of ID projects. The study I have undertaken in this PhD addresses that interest. Thus, it would be useful to draw on international literature of ID projects, what is meant by success for ID projects and NGOs that are primarily tasked with implementing ID projects.

International Development (ID) Projects

Ika (2012) described the development sector as a complicated and complex mixture of public and private organisational bodies who channel large amounts of funds in the form of international development (ID) projects. ID projects are usually referred to as development projects. These projects range from small, medium, large and extra-large, and that ID projects "cover all sectors of developing countries in sub-Saharan Africa, North Africa, the Middle East, Southeast Asia, Central and Latin America, and Central Europe" (p.28). K. Ahsan and Gunawan (2010) defined ID projects as public sector development projects or programmes, usually funded by a donor, that are designed for meeting economic and social needs of developing countries. Whereas Mishra (2016) noted ID projects as "as to those projects which are implemented through international aid by developed countries and multilateral agencies to countries with low level of development" (p.5). ID projects deliver various goods and services which are intended for public use. ID projects cover various sectors such as agriculture, water, health, nutrition, infrastructure, capacity building, electricity, transportation, urban and rural development, education, social reform, environment and governance (Diallo & Thuillier, 2004, 2005).

Ika (2012) informed that there are some similarities between ID projects and standard projects in terms of life cycle because both start from the preparation to implementation stage and then to evaluations procedures. Both ID and standard projects deliver goods and services for the public and face similar constraints in terms of funding, time and quality. But ID projects vary significantly from standard projects in practice and in the project management literature and that ID projects "are bound by a common goal of contributing to economic growth or poverty reduction" and "as such, they are generally not-for-profit projects" (p.28-29). Khang and Moe (2008) noted that objectives of ID projects involve reduction of poverty, improving living standards, protection of environment and basic human rights, helping

victims of natural or human-induced disasters, capacity building and developing basic physical and social infrastructures. Whereas standard projects (i.e. industrial and commercial projects) are undertaken by public and private sectors with the intent to make profit (i.e. shopping centres, stadiums, manufacturing plants). K. Ahsan and Gunawan (2010) informed that standard projects normally include two main stakeholders- the client paying for the implementation of the project who reaps the project's deliverables and the contractor or implementing party who gets paid for implementing the said project. With regards to ID projects, there are three key stakeholders- a donor paying for the project who does not get any direct deliverables of the project, the implementing partner and the intended beneficiaries who reap all the project's deliverables but do not have to pay for the said project.

ID projects possess both hard and soft aspects. Hard development projects generally associate with infrastructure development, agriculture, water supply and sanitation; while soft development projects deal with education, social welfare, basic health care, capacity building and resettlement (Khang & Moe, 2008; Youker, 1999). However, the line between hard and soft aspects often get blurred in ID projects as noted by Khang and Moe (2008) "even for projects involving development of physical infrastructure and facilities, the ultimate "soft" goals of serving sustainable social and economic development always have a priority in the project evaluation by key stakeholders" (p.74).

Youker (2003) presented that donors fund ID projects either through loans or outright grants, and donors play a huge role in identifying projects and determining projects' objectives. Each ID project is identified, prepared and implemented with a specific context in mind, while ID projects are typically implemented for 3-5 years but the funding may run up to 10 years (Diallo & Thuillier, 2004, 2005). Khang and Moe (2008) argued that humanitarian and social goals associated with ID projects are subtle and less tangible. Compared to standard projects (i.e. infrastructure or industrial projects) of the private sector, the deliverables of ID projects are less visible and quantifiable. Golini and Landoni (2014) also informed that ID projects are also distinct from emergency projects that are carried out to provide immediate assistance to people who have suffered from wars and natural calamities. In contrast, ID projects are usually implemented in more stable conditions with the objective of "improving living standards, education or health" and that is why "ID projects are less visible to society, but they generally yield more sustainable and longer-lasting results" (p.121).

Lewis (2005) identified some of the key bilateral and multilateral donors of ID projects such as the United States Agency for International Development (USAID), Department for Foreign International Development (DFID), World Bank, Islamic Development Bank (IDB), Asian Development Bank (ADB), various agencies of the United Nations and others. ID projects are chiefly implemented in the field by Non-Governmental Organisations (NGOs) that range from transnational organisations such as the Oxfam, CARE, Caritas, Christian Aid, Action Aid and others to national, local and small grassroots organisations that are spread across developing countries. NGOs play a pivotal role in reaching out to impoverished communities in developing countries and providing them with vital assistance, in many cases with the blessings of governments (Koch, Dreher, Nunnenkamp, & Thiele, 2009). Golini and Landoni (2014) noted three reasons for the growing importance of NGOs in implementing ID projects: the dramatic success of some NGOs (Brown & Kalegaonkar, 2002), lack of capacity of governments to play the role of development agents (Lindenberg & Dobel, 1999) and the participation of civil society (Woolcock, 1998).

Complexity of Success for International Development Projects

Ika, Diallo, and Thuillier (2012) informed that international development (ID) projects are the main instruments applied by policymakers in the field of international development. However, despite the massive size of the international development sector (USD 120 billion only in 2009), international development research has focused mostly on examination of projects, project management, project proliferation and projects outcomes (K. Ahsan & Gunawan, 2010). In particular, very limited research has been carried out to understand project success, the underlying causes, or the key success factors in the multi-billion dollar international development (ID) sectors (Diallo & Thuillier, 2004, 2005; Ika & Donnelly, 2017; Khang & Moe, 2008). Examining the success of these development projects are crucial, not only for the socio-economic progress of the receiving countries, but also for ensuring fruitfulness of the contribution made by the donor countries and organisations. Implementing organisations are able to generate desired outcomes when they are aware of the critical factors underpinning project success. Ika et al. (2012) noted that success criteria or measure for ID projects comprise of relevance, efficiency, effectiveness, impact and sustainability. Relevance refers to whether the project meets the need of the target group, efficiency refers to how the project has utilised available resources to avail desired outcomes, effectiveness refers to the degree of extent the project attains its objectives, impact refers to

the positive, negative, direct or indirect changes made by the project, and sustainability refers to the longevity of project benefits after donor funding runs out.

Khang and Moe (2008) argued that project success is a matter of perspective and there is a positive relationship between project success and critical success factors (CSFs). They argued further that research has been carried out to investigate critical success factors (CSFs) for business and commercial projects, but "little of this research pays adequate attention to international development projects that possess significant differentiating characteristics, especially the social and not-for-profit nature of the projects, the complex relationships of the stakeholders involved, and the intangibility of the developmental results" (p.72).

Ika et al. (2012) conducted a quantitative study in the field of International Development Project Management (IDPM) to investigate the links between critical success factors (CSFs) and projects success measures, which involved World Bank staff members who implement ID projects all over the world. The study came up with a set of five critical success factors (CSFs): monitoring, coordination (national), design, training, and institutional environment. World Bank undertakes ID projects in many developing countries but the bank does not implement projects in the field level. As a result, the first four CSFs relate to the internal project management structure of the World Bank and only the last CSF (institutional environment) acknowledge the outside world. Diallo and Thuillier (2005) investigated success criteria (dimensions) for ID projects implemented in sub-Saharan Africa to understand the perception of ID project coordinators about the success of their projects. They found that interpersonal relationships, trust, cooperation and communication between project coordinator and task managers influence success of ID projects. Khang and Moe (2008) conducted a more inclusive study of ID projects implemented in Vietnam and Myanmar by NGOs and added some success criteria that include addressing actual needs of eligible beneficiaries, working with implementing agencies that are capable and able to deliver and recognising priorities of key stakeholders.

Each and every success factor and success criteria mentioned above, may not be relevant to all ID projects implemented across the world. Too often well intended ID projects fail to deliver economic growth and reduce poverty for the target beneficiaries of developing countries (Hobbes, 2014). Ika and Donnelly (2017) emphasised the importance of context in the success or failure of an ID project because a development project might succeed in one place, while the same project might fail completely or partially when implemented in another

place. In addition to context, implementing organisations often fail to recognise various success conditions (Gow & Morss, 1988; Ika, 2012; Ika & Hodgson, 2014). Turner (2004) noted the significance of four success conditions that must be present for a project to have desired results: project stakeholders having an agreement on success criteria, having collaborative relationship between manager and owner of a project, mildly structured projects, and regular generation of project reports. Turner (2004) also mentioned a caveat about the success conditions that "none of them unfortunately are sufficient conditions, that is none of them on their own will guarantee success", and that "since they are all necessary conditions, they must all be there to deliver success, but even if the four are all present something else can still cause the project to fail" (p.349).

Ika and Donnelly (2017) argued that an ID project interacts with its context and the final outcome of the project is greater than the sum of its different components, and instead of imposing solutions to problems, they tend to generate from the surroundings. Success for an ID project cannot be derived from carbon copying success from another ID project, rather, success is derived "from the testing, scaling and failing of initiatives in a variety of socio-politico-geographic contexts" (p.45). Banik (2018) argued that success for development projects can be conceptualised in many ways and it is quite impossible to agree on a single way to assess the success of all development projects.

Non-Governmental Organisations (NGOs)

Nalinakumari and MacLean (2005) noted that the history of Non-Governmental Organisations (NGOs) dates back to early 1800s when the British and Foreign Anti-Slavery Society came to be known as the first NGO with the mission to ban slavery in the British Empire. Nanthagopan, Williams, and Page (2016) noted that NGOs have evolved over four generations. The first generation of NGOs focused in the areas of relief and welfare activities during periods of emergency due to natural and manmade disasters (Bagci, 2003). The second generation of NGOs were in engaged community development and strived to develop capacity of community people so that they become self-reliant to meet their own needs. The third generation of NGOs looked at sustainable systems development and changes in policy and institutions worldwide. Finally, the present fourth generation of NGOs are involved in people-oriented development endeavours on a global scale. Malena (1995) argued that NGOs have been playing a vital role in local, national and international development since the 1980s. Ika et al. (2012) informed that NGOs are growing rapidly in terms of range and variety of activities, and that many of such activities and initiatives are project based. Vakil

(1997) defined NGOs as private, not-for profit and self-governing organisations that are independent and separate from governments and their policies, which are "geared to improving the quality of life of disadvantaged people" (p.2060). Golini and Landoni (2014) informed that the United Nations Economic and Social Council introduced the term 'non-governmental organisation' in 1950 through its 288 (X) Resolution, to identify organisations that do not have formal affiliation with the government.

Gellert (1996) presented six attributes of NGOs that increase their effectiveness and differentiate them from other organisations. These attributes are: ability to reach areas of great need, promoting local involvement, low cost, adaptive and innovative, independent, and sustainability (p.21-22). NGOs often bridge the gap between governments and people, and foster voluntary participation in their projects and activities. Nanthagopan et al. (2016) argued that NGOs mostly focus on development initiatives that foster human development, poverty alleviation and vulnerability reduction in developing countries. Activities of NGOs are more prevalent in developing countries with limited institutional capacities as a result of the emerging nature of their economies (Dedu, Staicu, & Nițescu, 2011). Due to the economic state, governments of these countries may have inadequate infrastructure to serve their people that leads to the involvement of various NGOs to provide those services, which are usually provided by the state in a developed country. Another reason for the growing prominence of NGOs has been noted by Lindenberg and Dobel (1999) that the NGO "sector began to fill the vacuum left by nation-states in international relief and development activities" and that "the sector's growth took off in the 1970s and accelerated in the 1980s and 1990s" (p.4). With regards to the developing world, Ghosh (2009) also found that NGOs are often better placed than state bureaucracies to play a leadership role in social reconstruction.

Successful development projects can only be delivered by NGOs that are capable. Edwards (1999) argued that the main objective of any NGO should be to best utilise their scarce resources to make helpful changes in livelihood, reduce poverty and powerlessness. Some commentators argue it is through providing large service delivery projects by emphasising on core functions (Jain, 1994). Others suggest NGOs should engage in various activities and focus on empowering the people (Edwards & Hulme, 1995). Batti (2015) noted that development projects implemented by NGOs "are dynamic in nature, vary from one region to another, and are unique in terms of complexity, nature, duration, scope, context, and formality" (p.21).

As NGOs assume greater responsibility to improve wellbeing of their respected communities through successful development projects, they become subject to a whole host of internal and external challenges. Brown and Kalegaonkar (2002) found that as NGOs strive to bring change in the developing world, they are often confronted with challenges that emerge from contextual forces as NGOs have to work with actors from outside the sector, as well as some challenges that emerge from within the sector. They identified four challenges that emanate from outside the sector: "(a) legitimacy and accountability with the general public; (b) relations with institutions of the state, such as government agencies; (c) relations with institutions of the market, such as businesses; and (d) relations with international actors, such as development agencies that provide funding support to many development NGOs" (p.233). Challenges generated from the internal NGO sector are as follows: "(a) amateurism, (b) restricted focus, (c) material scarcity, (d) fragmentation, and (e) paternalism" (p.235).

Edwards (1999) argued that each NGO learns and iterates as it implements one project after another. If an NGO does not have the capacity to learn from its mistakes then it is not likely to deliver sustainable development and its will be dependent on donors who prefer short term gains. The location of the NGO has implication on its project success. If it operates in a homogenous community then raising social awareness will be much easier. Working in a heterogeneous community will require a NGO to be more careful in its approaches (Hashemi, 1995). Success of an NGO and its projects often depends on the degree of social and political space allowed to it by the community, local elites and government bodies. These challenges compel NGOs to take innovative approaches to ensure maximum utilisation of limited resources for attaining desired project outcomes. Edwards (1999) noted that NGOs are largely dependent on donors to fund their projects which often leads to complexities. As these donor organisations go through changes in terms of management and organisational policy, it affects the activities of a partner NGO.

Implementing successful development projects while navigating the above challenges is critical for NGOs as they are accountable to various stakeholders. Batti (2015) argued that when an NGO implements successful development projects, it nurtures a reputation for itself among donors, government agencies and general public, which often results in the NGO being trusted to implement more projects. Therefore, a number of issues must be taken into consideration to understand how an NGO execute successful development projects. Edwards (1999) argued that goals and objectives of an NGO are similar with its leadership. Inspirational, but not overbearing leadership is critical for NGOs to make development

projects successful. Such a leader attracts and retains a group of passionate staff who develop team effectiveness. Only an NGO that has capable leadership and workforce, can empower project beneficiaries to implement their development goals effectively.

Ofuoku (2011) stressed the importance of community involvement in the success of rural water projects in the Delta State of Nigeria. Such studies of community involvement playing a vital role in the success or failure of development projects are rare. From the study of two NGOs in India and one NGO in Bangladesh, Edwards (1999) offered that projects are more successful of those NGOs which have clearly defined long term goals in terms of what they want to achieve. NGOs that change their goals frequently tend to lose their way. Sirolli (2012) in his TED talk 'Want to help someone? Shut up and listen!' articulated the significance of local perspective in making decisions about development projects. He emphasised the importance of listening to local people in his experience of working with fishermen in Western Australia. Evaluation and annual reports of development projects that are mostly done by outside consultants rarely shed light on the above issues.

Impacts of Climate Change on Poverty and Development

Leary et al. (2008) highlighted that extreme weather events destroy invaluable infrastructure, asset and livelihood, distressing billions of people around the globe. Various natural disasters have contributed to economic losses up to US$575 billion from 1996 to 2005. They also adversely affect development initiatives and affected communities experience major setbacks in terms of livelihoods, assets, infrastructures, livestock and farms that take years to reconstruct and recover. Extreme weather events such as Hurricane Katrina or Cyclone Sidr caused major losses in terms of income and assets while repairing damaged buildings, roads, highways and schools takes resources away from other development agendas. Alleviating worldwide poverty is a major goal of development activities and climate change has imposed serious challenges on this goal. Cannon and Müller-Mahn (2010) argued that living conditions of the majority of people from developing countries have been more or less affected by climate change. Climate is crucial for poor communities in the developing world who rely on agriculture as a source of livelihood and who inhibit the flood plains, mountains, forests and low laying areas. OECD (2006) noted that development is already being affected by climate change as the increasing temperature in the Himalayas leads to glacier retreat that escalates the risk of glacial outburst flooding. Agrawala (2004) informed that a hydropower facility in Nepal was destroyed by a glacial lake flooding shortly after it was commissioned by the World Bank in 1985. Climate change exacerbates the complicated issues of global

poverty, economic inequality, gender discrimination and disease that already effect communities and sometimes whole countries, although in varying degrees. According to the Article 1 of the UNFCCC (1992), climate change will have "significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare" (p.7).

Ayers et al. (2014) argued that there are close links between climate change and the global problem of poverty and underdevelopment. The poorest people of the world are the hardest hit by climate change impacts while they contribute least to its causes. Poor communities have the least resources to adapt to climate change but they are more vulnerable to its impacts and physical displacement. Deeb et al. (2011) noted that among the poorest communities, women are more vulnerable than men because they earn less than their male counterparts, are compelled to do majority of the household chores, have less access to information and formal education, are less equipped to adapt to climate change. Since developing countries have the least social, technological and financial resources to adapt to climate change, they will be most vulnerable to its effects. Morton, Pencheon, and Squires (2017) informed that climate change is anticipated to be a significant barrier for developing countries in the achievement of the sustainable development goals (SDGs). Developing countries vary significantly in terms of individual circumstances and the extent of specific climate change impact that the countries are exposed to- geographically, socially, culturally, financially and politically. For this, countries require varying adaptation initiatives depending on a country's individual circumstance. UNFCCC (2007) articulated a number of cross cutting issues, albeit affecting in varying degrees, which apply across nations and regions such as biodiversity, agriculture, terrestrial ecosystems, coastal zones, water resources and human health.

Governments have a major role to play in integrating climate change in development activities through providing policy support. Newell (2004) argued that if climate change is considered as an isolated issue and only addressed in environmental policies, then these policies might be undermined by other policies that inadvertently promote generating greenhouse gases. If national policy frameworks for agriculture, industry, employment and livelihoods, trade, energy, water management, communication and transport are enacted considering climate change, then they will ultimately help address climate change issues and exempt governments from taking costly mitigation and adaptation initiatives in the future. However, risks associated with climate change have received little attention in the poverty reduction strategy paper (PRSP) of most countries. UNFCCC (2007) emphasised that

developing countries require international assistance in national planning for overall development, capacity building, transfer of funds and technology. Least developed countries (LDCs) and small island developing states (SIDS) require special considerations because they are extremely vulnerable to climate change. Vulnerable communities of these countries desperately need capacity building and systematic planning to increase their resilience from climate change risks.

Palosuo (2009) showed that it has become imperative to put climate change and its implications in the mainstream of international aid initiatives and development projects. But it is quite complex to bridge the gap that exists between the climate change community and development practitioners. That is because these two communities do not use the same language, operate on different space and context, and have dissimilar objectives. Agrawala and Crick (2009) showed this gap, stating that "many development practitioners are not familiar with the intricacies of climate science or of the climate negotiations" and that "few in the climate change community have even heard of the Paris Declaration on Aid Effectiveness or the Accra Agenda for Action which guide the agenda for development co-operation" (p.26). Improving understanding about climate change needs to start with raising awareness among development partners, local communities and national governments. T. Mitchell and Tanner (2006) argued that various climate change impacts will worsen poverty reduction strategies of development but integrating climate change in development planning and budgeting will ensure the sustainability of development projects in both current and future climate uncertainties.

Climate change is closely related with development in a number of ways. Palosuo (2009) pointed that climate change and development can be beneficial for each other. Well thought out development projects that are focused on improving health, nutrition, education, infrastructure scenario and reducing poverty would automatically reduce a community's vulnerability to various climate change effects. Schipper (2007) informed that climate change adaptation might simply reinforce the goals of development especially in places where vulnerability is contextual. As these activities increase a society's capacity to cope with climate change and they also reduce poverty, improve livelihoods, nutrition and health. However, high levels of development do not necessarily translate to high levels of adaptive capacity to climate change. Leary et al. (2008) argued that the destruction caused by Hurricane Katrina is an example of how developed countries can be vulnerable to climate change impacts. They further argue that new infrastructures must be built with effects of

climate change in mind otherwise they might not withstand extreme weather events and have shorter lifespan. Ayers et al. (2014) noted that about 40% of development activities financed by the World Bank are facing threats from climate change effects and these threats endanger poverty reduction and infrastructure projects.

Agrawala and Crick (2009) noted that OECD was one of the first organisation to quantify the exposure of official development assistance to climate change risks. van Aalst and Agrawala (2005) studied six developing countries (Bangladesh, Nepal, Fiji, Tanzania, Egypt, and Uruguay) to understand the extent to which proportions of development activities are affected by risks associated with climate change. They found that development activities that account for over half a billion US dollar might be affected in Bangladesh and Egypt, and around 200 million in Nepal and Tanzania.

The international literature reviewed above stressed the importance of acknowledging climate change effects for implementing successful development projects as well as for the realisation of overall development goals. This is even more crucial for developing countries that are extremely vulnerable to climate change.

Climate Change in Bangladesh

There is substantial evidence that climate change is creating worldwide problems and it is more severe for developing countries such as Bangladesh. N. Huq, Hugé, Boon, and Gain (2015) noted that climatic hazards such as floods, droughts, cyclones, heat waves are occurring more often and are getting intensified. Lower and middle-income countries happen to encounter more of these natural calamities (Rakib et al., 2019). Consequently, the harmful impacts of climate change largely fall on the marginal communities of poor countries (Ayeb-Karlsson et al., 2016; Basher, 2006; Cannon & Müller-Mahn, 2010).

A. Ali (1999) noted that having the reputation of being a disaster-prone country, Bangladesh experiences various types of disasters each year and it is one of the most vulnerable countries of the world with regards to climate change. On the World Risk Index of 2015 (p.11), Bangladesh was ranked number six worldwide at risk of natural disasters (Garschagen et al., 2015). Glennon (2017) argued that scientists use computer models to predict the occurrence of climate change but climate change is a real issue for Bangladesh that is causing unprecedented human suffering. Bangladesh is situated between 20° to 26° North and 88° to 92° East and it is bordered by India on the west, north and east, while the country has

Myanmar on the south-east and the Bay of the Bengal on the south (Agrawala, Ota, Ahmed, Smith, & van Aalst, 2003).

An average Bangladeshi has a life expectancy of 72.3 years, while having average schooling of 6.1 years, a GNI (Gross National Income) of US $4057 per capita and Bangladesh overall was ranked 135th out of 189 countries on UNDP's Human Development Index (HDI) (UNDP, 2019). With an area of 147,570 square kilometres and an increasing population that currently stands over 162 million (BBS, 2018), with a very high population density of 1015 persons per square kilometre (Shaw, 2015), Bangladesh is characterised by severe climatic events (Md Nasir Uddin et al., 2019). G. M. M. Alam, Alam, and Mushtaq (2017) informed that Bangladesh is particularly vulnerable to climate change because more than 31% of its population live below the poverty line with an income of less than US $2 a day. Each year the country experiences various climatic hazards such as floods, riverbank erosion, droughts, cyclonic storm surges, salinity intrusion and water logging (G. M. M. Alam, 2017).

The topography and geographic location of Bangladesh makes it very susceptible to extreme weather events. A. Ali (1999) noted that Bangladesh is located between the Himalayas to the north and the Bay of Bengal to the south. Moreover, this particular geography provides the crucial monsoon but also makes Bangladesh a constant candidate for damaging natural disasters, to which the impacts of climate change can now be added. The country is characterised by low, deltaic and flat biophysical factors that makes it a hotbed for floods and cyclonic storm surges (Ayers et al., 2014), while two-thirds of Bangladesh is less than five metres above average sea level that is highly vulnerable to river and rainwater flooding as well as tidal flooding during storm surges (MoEF, 2009). A large network of tributaries of the Ganges, Brahmaputra and Meghna rivers (GBM Basin) flows through the country that end up on the Bay of Bengal forming on the largest deltas in the world (Ministry of Foreign Affairs of the Netherlands, 2018). A UNICEF (2019) report informed that 20 Districts out of 64 Districts of Bangladesh are susceptible to various climate change hazards such as floods, flash floods, cyclones, droughts and others (figure 2.3).

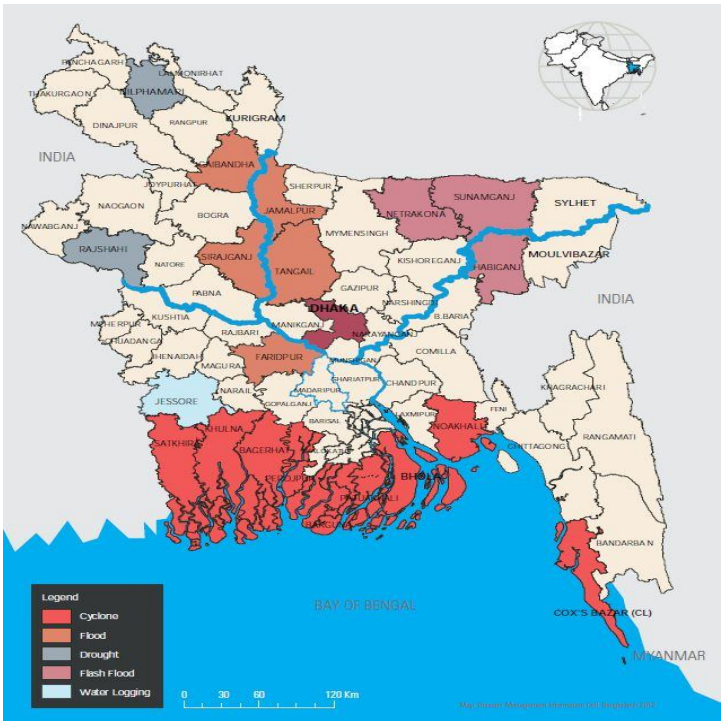

Figure 2.3: Districts at risk from climate change. Source: UNICEF (2019)

Increasing temperatures owning to global warming have accelerated glacier melt in the Himalayas. This glacial melt is affecting many of the river basin that are located downstream, which also includes the GBM basin that flows through Bangladesh. Glennon (2017) noted that the Himalayas holds the third largest body of snow in the world. Subsequently, glacier melt in the Himalayas have swollen various rivers that flow through Tibet, Bhutan, Nepal, India and Bangladesh. Ministry of Foreign Affairs of the Netherlands (2018) highlighted that since 1980's the Himalayan glaciers have experienced a reduction of 21% in terms of area. While between 2003 and 2009, the Himalayas have lost around 174 gigatonnes of water that have caused significant flooding in the downstream river networks (Laghari, 2013). Another reason for persistent flooding has been the significant increase of rainfall notably in the west and north-west of Bangladesh. Karmalkar, McSweeney, New, and Lizcano (2012) noted a country-wide rainfall increase of 3.4% during the pre-monsoon summer season. Every year Bangladesh suffers from flood in the months of July and August (Sharmin & Islam, 2013).

The Government of Bangladesh (GoB) mentioned the extent of flooding in its BCCSAP (Bangladesh Climate Change Strategy and Action Plan) (MoEF, 2009) that, "in an 'average' year, approximately one quarter of the country is inundated" (p.8). Moreover, the *haor* areas of north-eastern Bangladesh often suffer from flash floods. In 2017, there was unusual heavy

rain in the month of March and huge amount of rainwater or surface run-off came through several rivers that originate in Meghalaya and Assam states of India (Khalequzzaman, 2019). This sudden inflow of water devastated crops and valuable infrastructure of six districts in the *haor* region of Bangladesh.

All these flooding across Bangladesh often trigger riverbank erosion, which accounts for the largest economic losses (G. M. M. Alam, 2017; G. M. M. Alam, Alam, & Mushtaq, 2017). Around 200,000 Bangladeshis are displaced and 8700 hectares of homestead and farmland are lost annually at the hands of riverbank erosion. GoB (2010) noted that though the government has taken various measures to curb riverbank erosion through constructing erosion-preventive structures along the riverbanks, around 20 Districts of Bangladesh suffer from riverbank erosion. On the other hand, UNICEF (2019) mentioned that the majority of Bangladesh receives ample rainfall in the monsoon season but some north-western parts of the country often suffer from droughts, which mostly occur around the months leading to November-December during rice harvest period (MoEF, 2009) (image 2.1). Sharmin and Islam (2013) argued, climate change plays a direct role in causing more droughts, "especially during the dry season" (p.5).

Image 2.1: Sever drought condition in Bangladesh. Source: MoEF (2009)

Alike the tributaries of the Ganges, Brahmaputra and Meghna rivers, the Bay of Bengal is both a blessing and a curse for Bangladesh. The Bay provides Bangladesh with valuable marine assets and access to world markets in the form of export and import trades. However, the Bay of Bengal has a notorious reputation for being the most active cyclone epicentre in the world. Md Nasir Uddin et al. (2019) informed that lower laying districts adjacent to the Bay are often exposed to cyclone-induced storm surges, coastal flooding and riverbank erosion. Rakib et al. (2019) mentioned that during 1877-2009, the southern coast of Bangladesh was struck by 159 cyclones of which 48 were severe cyclonic storms.

Agrawala et al. (2003) noted, Bangladesh's location and topography (creating an inverted funnel effect) make it extremely vulnerable to cyclonic storms. They further elaborated that cyclones form in the deep Indian Ocean and then travel through the Bay of Bengal, and that the Bay's "shallow waters contribute to huge tidal surges when cyclones make landfall" (p.14). Bangladesh is subject to more storm surges than its neighbouring countries because it is located at the head of northward converging nature of the Bay of Bengal where the Bay narrows (figure 2.4), and the country is hit by a severe cyclone every three years on average (MoEF, 2009). A. Ali (1999) elaborated that a tidal or storm surge is generated by winds and atmospheric pressure changes resulting from a cyclone, wind being the main contributing factor and that "it exerts stress on the water underneath, and surge is generated" (p.112). Furthermore, sea surface temperature is increasing because of climate change that is likely to increase wind speed when a cyclone makes landfall. Thus, an increase in sea surface temperature will cause higher storm surges in the southern coast of Bangladesh. The southern coastal regions are inhabited by 50 million Bangladeshis that accounts for one-third of the total population (MA Rahman, 2010). Agrawala et al. (2003) added that storm surges are normally accompanied by intense precipitation that triggers inland and riverine flooding causing more damage.

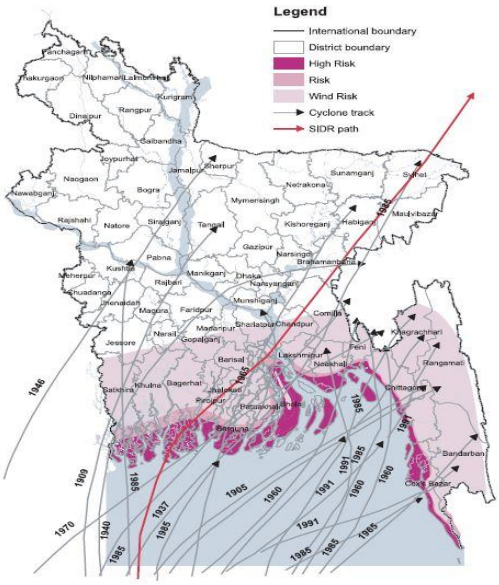

Figure 2.4: Tracks of cyclones in Bangladesh. Source: MoEF (2009)

Glennon (2017) noted that scientist believe sea surface temperature in the shallows of the Bay of Bengal has increased, which has led Bangladesh to record some of the fastest sea level rises. This sea level rise has been corroborated in three separate locations in the southern

coast of Bangladesh. Starting from west to east in the southern coast of the country, sea level has risen per year by 4 millimetre, 6 millimetre and 8 millimetre respectively at Hiron Point, Char Changa and Cox's Bazar (Sharmin & Islam, 2013). In addition, F. Khatun and Islam (2010) noted that sea level rise has contributed in soil salinisation in Bangladesh, which increased from 1.5 million hectares in 1973 under mild salinity to 3 million hectares in 2007. Rakib et al. (2019) extended that salinity may be caused by various climate change impacts that include intense cyclonic storm surges that often lead to prolonged waterlogging of seawater on surface areas and a decreasing freshwater discharge from upstream rivers. A World Bank (2011) report informed that 1.2 million out of 2.85 million hectares of arable land in coastal and offshore areas of Bangladesh have already been affected by varying degrees of salinisation. Escalating soil salinity creates severe consequences for the inhabitants of coastal districts of Bangladesh by contaminating ground water sources and making farmlands less fertile (figure 2.5).

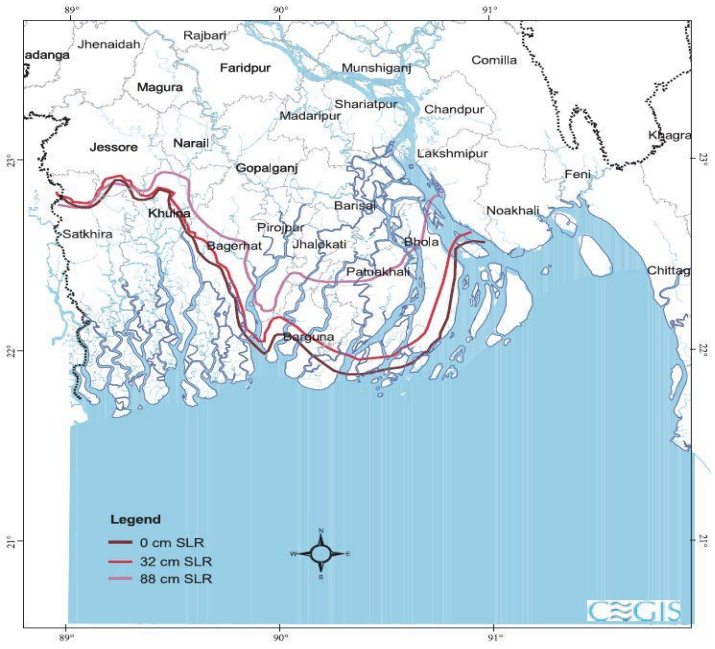

Figure 2.5: Likely salinity ingress in southern districts due to sea level rise. Source: MoEF (2009)

Bangladesh is faced with dire consequences from above mentioned climate change impacts not only because of its geographic location, but also because of Bangladesh's socio-environmental conditions, growing population, high poverty incidence, meagre economic and technological capabilities (Agrawala et al., 2003; Pouliotte, Smit, & Westerhoff, 2009; World Bank, 2013). Although climate change is affecting every sector of the Bangladeshi economy, climate change effects have massive repercussions for the agriculture sector. MoEF (2009) argued that although the agriculture sector only accounts for 20% of GDP, this sector

provides direct and indirect employment for 60% of the population. People who rely on agriculture for their livelihoods reside mostly in rural Bangladesh, these households seldom have the capacity to adapt to climate change due to poor socio-economic conditions (G. M. M. Alam, Alam, & Mushtaq, 2017).

When land and established localities get swallowed in the riverbeds due to riverbank erosion, the dynamic riverine environment of Bangladesh creates new land *chars*[3] in the downstream through the process of accretion (Glennon, 2017). Scarcity of land and desperate situation oblige these newly displaced people to start a new life on these unstable new land that has risen out of the river. But many such Bangladeshis do not have this option of eking out a living on these lands and eventually they are left with the only option of moving to urban cities in search for shelter and work. UNICEF (2019) noted that daily inflow of people in urban cities has caused Bangladesh to record one of the highest urban population growth in the world, estimated to be 4% in 2015. The UNICEF report also mentioned a research study carried out by the Association for Climate Refugees that found six million Bangladeshis displaced by various climate hazards thus far (p.24). This number can only increase in the years to come as climate change impacts worsen in Bangladesh.

From the retreating shorelines in the south to the flood and drought prone plains of the north-climate change effects are creating a menace. Two devastating natural hazards in 2007, massive floods in July and Cyclone Sidr in November, made the Government of Bangladesh (GoB) sprang into action. Khurshid Alam et al. (2011) informed that the GoB realised that climate change is very likely to impede the national goal of becoming a middle-income nation by the year 2021. They added that the GoB formulated an overarching 'Bangladesh Climate Change Strategy and Action Plan' or BCCSAP and established a trust fund to implement the BCCSAP with national and foreign funding.

MoEF (2009) noted that the BCCSAP includes six areas: a) food security, social protection and health; b) comprehensive disaster management; c) infrastructure; d) research and knowledge management; e) mitigation and low carbon development; and f) capacity building and institutional development (p.50). These six areas contained 44 short, medium and long-term programmes. The BCCSAP has been accommodated in Bangladesh's 7th five year plan (FY2016-FY2020) policy document that includes chapters on climate change (Ministry of

[3] *Char* (চর) or Sandbar emerges in the riverbed or adjacent to the riverbanks during winter and dry seasons in Bangladesh. Detailed explanation of char has been provided in Chapter Four

Foreign Affairs of the Netherlands, 2018). Climate change adaptation and mitigation priorities have also been featured in various policies that include Coastal Zone Policy, National Water Act, National Agricultural Policy, Food Policy's Plan of Action and others (Ayers et al., 2014). Climate change adaptation has been the subject of focus in most of these policies and programme activities. UNICEF (2019) noted that since the enactment of BCCSAP in 2009, the government along with partners and society, have made impressive progress towards developing climate resilience by enriching knowledge and institutional capacities. The government has invested hugely in risk reduction measures and disaster preparedness that are paying off. Besides, Bangladeshis have been living with aggressive natural forces for many years, which have assisted them to develop resilience. But threats associated with climate change continue to rise and much more has to be done to help the marginalised Bangladeshi communities who are besieged by these threats.

The Ministry of Environment, Forest and Climate Change (MoEF) is the focal ministry for developing and implementing climate change related policies and activities. MoEF is responsible for coordinating the Climate Change Cells placed within other relevant ministries including Ministry of Food and Disaster Management (MoFDM) and Ministry of Agriculture (MoA) (Ayers et al., 2014). Other organisations involved in climate change activities include government agencies such as the Department of Agricultural Extension (DAE), various UN agencies including UNDP, FAO, IFAD, UNICEF and others, development partners such as USAID, DFID, EU and others, local and international NGOs. Aberman, Birner, and Ali (2011) noted that institutions responsible for climate change adaptation, particularly the government ones, often suffer from lack of capacity and coordination. Bangladesh played a miniscule role in triggering a global climate change. Therefore, it would be wrong to expect that the Bangladeshi government can alone address all the problems imposed by a changing climate on its people. As a result, the development community and NGOs have taken an important role in addressing climate change issues and helping the most vulnerable Bangladeshis.

Impacts of Climate Change in Bangladesh

For a poor country like Bangladesh, climate change effects are not only felt on biophysical and environmental arenas, but also felt across social and economic sectors. Ministry of Foreign Affairs of the Netherlands (2018) informed that Bangladesh relies on agriculture and other resource-dependent sectors to provide livelihood for the majority of its population. Moreover, the massive and growing population of the country exert enormous pressure on its

meagre land and water resources that leads to pollution, quick depletion of groundwater and harmful effects on food production. Ismail (2016) noted that climate change would only intensify this pressure and Bangladesh would be more impacted by climate change than any other nation by the year 2025. M. T. Rahman (2017) argued that although contribution of agriculture is decreasing in the GDP of Bangladesh, agriculture sectors provides 84% of employment to rural Bangladeshis who rely on this age old livelihood either directly or indirectly. T. S. Thomas et al. (2013) found in their study that 80% of the farmers have noted some degree of climate change, with most observed effects being changes in rainfall pattern, severe dry season and reduction in rainfall. The respondents of the study also reported that they endured some form of natural hazards, generally floods, droughts or cyclones. While the respondents lost 12% of their harvest on average to these hazards.

Livestock and fishery sectors have also been adversely affected by climate change. Livestock sector has been a reliable source of food and income for millions of Bangladeshis in rural parts of the country. The impacts of floods, cyclone, saline intrusion, droughts and heat waves have put livestock sector under threat (Ferdous et al., 2013). Khan, Ali, Asaduzzaman, and Bhuyan (2010) noted that climate change cause lower crop production, which makes it difficult for owners to provide food for their livestock. In case of fishery sector, natural calamities such as cyclone, storm surge, floods and riverbank erosion that are induced by climate change often destroy aquaculture infrastructure, and fishermen are not able to venture into sea during cyclonic storm surges (T. S. Thomas et al., 2013).

World Bank (2010) reported that through affecting agriculture and other resource dependent sectors, climate change shrinks the national economy of Bangladesh. With regards to the agriculture sector, climate change is expected to shave this sector's GDP by 3.1% annually. Therefore during 2005-2050, the agriculture sector will endure a cumulative loss in added value worth USD 36 billion. Moreover, the loss increases to USD 129 billion if indirect impacts on complementary sectors and industries are taken into account. Khan et al. (2010) informed that this economic loss will potentially increase poverty. Consequently, parts of the country that will be worst hit by climate change tend to have a higher concentration of poverty-stricken people. World Bank (2010) argued that many of these poor people are reliant on agriculture, livestock, fishery and other climate-sensitive sectors for their livelihoods. When weather hazards induced by climate change destroy their livelihoods and assets, the people are left with less capacity to bounce back. Wright (2014) informed that in a low crop productive scenario, climate change may increase net poverty up to 15% by 2030.

There is high incidence of food insecurity in the country with 56% of the households reporting periods of food shortage every year (Wright, Kristjanson, & Bhatta, 2012). A combination of food insecurity and poverty make people more vulnerable to climate change, while restricting their capacity to adapt to it.

Sharmin and Islam (2013) argued that in Bangladesh, women are considered to be more vulnerable to less abrupt climate change effects such as changes in rainfall pattern and rising temperature. Besides, women are mostly responsible for carrying out household chores in a typical Bangladeshi household. In rural settings, these household chores are chiefly resource-dependent. Routine household duties such as fetching freshwater for drinking and cooking or finding grazing land for livestock become increasingly difficult under salinisation and drought conditions. Aberman et al. (2011) reported that during periods of scarcity in Bangladesh, resources (i.e. livestock) owned by women are sold first, while resources owned by men are usually preserved. Wright (2014) noted that in most climate-vulnerable parts of Bangladesh, women are solely responsible for taking care of their households while men migrate to other areas to look for work. Martin et al. (2013) informed that it is widely acknowledged that climate stresses and shocks are responsible for the rapidly growing internal migration and urban population in Bangladesh. This rapidly growing rural to urban migration is exacerbating existing problems in major urban cities of Bangladesh that are pushed to the limit.

The above literature showed that Bangladesh is bearing the full brunt of climate change. Even though Bangladesh has developed considerable knowledge and institutional capacity to defend against natural disasters, the country faces daunting challenges from harmful effects of climate change. Each year Bangladesh receives noteworthy foreign development assistance form bilateral and multilateral donors, a portion of which has been put into use to help the marginalised communities whose lives have been upended by climate change.

Development Assistance in Bangladesh

Development assistance or development aid or foreign aid is a crucial part of international development cooperation efforts. Development aid includes official grants and concessional loans that are used to transfer resources from developed countries to less developed ones on the grounds of development, especially with an intention of promoting economic and social development (Uh & Siddiky, 2017). The chief objectives of development aid are reducing human poverty and mitigating human sufferings in developing countries. United Nations-

NGLS (2008) informed that development aid involves a range of institutional actors such as governments, international organisations, NGOs and private foundations. Uh and Siddiky (2017) mentioned that development aid can be classified in two categories with regards to source. Aid is said to be bilateral when it is "provided directly by governments, through their official aid agencies, to an aid recipient country", and that "if aid is given by multilateral or international agencies active in development, it is called multilateral aid or multilateral aid assistance" (p.123). In FY 2017-2018, bilateral donors disbursed USD 3640.39 million and multilateral donors disbursed USD 2728.98 million in Bangladesh (ERD, 2019).

S. Hossain, Mitra, and Abedin (2018) argued that Bangladesh has been a development aid-dependent country in Asia, receiving USD 1 billion in late 1970s to USD 2.42 billion in 2014. Though if compared with the percentage of GDP, the development aid assistance received by the country has reduced from 3.62% in 1972 down to 1.12% in 2015. B. Hossain (2014) noted that Bangladesh receives this aid mainly in three forms, which are food aid, commodity aid and project aid. During 1971-2012 period, project aid consisted of 67.7% of the entire development aid, while commodity aid and food aid consisted of 21% and 12% accordingly. The mode of development aid has shifted from food and commodity aid to project assistance aid. Food and commodity aid declined significantly due to self-sufficiency on part of Bangladesh and that "both together recorded as only 5.17 percent of total assistance in 2001-2012", while project aid gradually became the key foreign development assistance "from 26 percent during 1971 to 94.83 percent in 2012" (p.60). M. S. Rahman, Sadath, and Giessen (2016) added that from 1971 to mid-2013, a total of US 38.38 billion, 10.91 billion and 6.76 billion were disbursed in project aid, commodity aid and food aid respectively.

Researchers have been unable to reach a consensus whether foreign aid and various development assistance have been helpful for economic growth in developing countries including Bangladesh. Boone (1995) contended that aid does not have any significant contribution in attaining economic growth in developing nations. Burnside and Dollar (2000) examined that aid supplements growth "in developing countries with good fiscal, monetary, and trade policies but has little effect in the presence of poor policies" and that "good policies are ones that are themselves important for growth" (p.847). World Bank (1998) argued that foreign aid can be useful in accelerating growth but only in the presence of a good policy environment. However, World Bank also exemplified instances where "foreign aid has also been, at times, an unmitigated failure" (p.1).

With regards to Bangladesh, Quibria (2010) conducted assessments of key donors and recipients and concluded that the country showed mixed results in aid effectiveness. Nonetheless, the Economic Relations Division (ERD) of the Ministry of Finance (MoF), has acknowledged the importance of development aid in the overall development of Bangladesh. Mentioning this acknowledgement of the Economic Relations Division (ERD), M. S. Rahman et al. (2016) noted that development assistance or aid "has contributed significantly to the development of socio-economic sectors such as education, health, agriculture, power and energy, and infrastructure" (p.40). A portion of this development assistance is channelled towards millions of marginalised Bangladeshis through NGOs.

NGOs in Bangladesh

A. A. Ullah and Routray (2007) argued that in Bangladesh a combination of fragility of formal political institutions and availability of development assistance funding led to a huge growth of Non-Governmental Organisations (NGOs) during 1990s. Often public-funded by the government, national and international donors, NGOs are private civil society actors that have entered the development, social, and political sphere in addition to the public structures of governance and administration in Bangladesh. Lewis and Hossain (2008c) claimed that Bangladesh has the most extensive, vibrant and arguably most successful NGO sector among any developing country. According to some estimates, there are approximately 22,000 NGOs in Bangladesh who are active in 80% of the villages and reach about to 35% of Bangladesh's population. Even though the majority of the NGOs are dependent on external funding, they are very indigenous in nature. Kabeer, Mahmud, and Castro (2010) described that NGOs as very active and visible part of the Bangladeshi civil society and far more involved in the lives of the poor communities than other formal sectors like the government. Mir and Bala (2015) noted that to meet the need of poor people in Bangladesh, NGOs has expanded their activities to all levels of the society.

Haider (2011) mentioned that the history of NGOs in Bangladesh can be traced back to the British colonial period through their activities in religious trust-based schools, hospitals and orphanages. NGOs went through a radical transformation and became agents of development in the post liberation era of 1970s. The NGO sector of Bangladesh (post-independence from Pakistan) have gone through three stages of growth. NGOs were more active in relief and welfare services in post-liberation times. Then throughout the 1980s, a lot of focus was given to small-scale and self-reliant local development intervention to build capacity of poor communities. Since the 1990s, NGOs are getting involved in the policy levels of different

sectors. Kabeer (2003) argued that NGOs can also be categorised based on their operating principles and ideals. The earlier NGOs were concerned with microfinance and emphasised on the economic dimensions of empowerment. The second generation focused on the social services such as education and health with a view to improve human capital. The third ideal type combined economic and social services with an attention to empowerment focusing on political dimensions. The fourth emphasised challenging power structures and promoting rights through social mobilisation organisations to attain political empowerment. M. S. Islam (2016) argued that there are three types of NGOs operating in Bangladesh: local NGOs that operate in the community level of their respected local areas, national NGOs are those that have activities across most part of Bangladesh, and international NGOs that come from overseas countries and function with a combination of foreign and local staffs.

Jamil (1998) attempted to classify NGOs operating in Bangladesh with regards to operations, funding sources and management. Firstly, NGOs with foreign origin that are referred to as international or northern NGOs, some of these NGOs have direct operations while some only provide funding to local NGOs. Then NGOs with local origins who receive funding and technical assistance from overseas are called national or southern NGOs. Finally, there is "a myriad of small NGOs which operate locally", that "these are funded either by international/national NGOs and/or by government and local sources" and "they may be termed local voluntary agencies" (p.45).

Begum (2003) noted that social welfare activities have been the main interests of the Bangladeshi NGO sector. These activities are now being incorporated with national development endeavours and NGOs are now being considered as key partners in development. She further noted that Bangladeshi NGOs are operational in various sectors such as group building, micro credit, health and nutrition, formal and non-formal education, social justice, family planning, sanitation, agriculture, livestock, environment, human rights, legal aid and other areas. The government, national and international donors have immensely supported the NGOs as an active partner in various poverty reduction projects in the country. In 2001-2002, the NGO sectors received 6.2% of the official development grant, while this percentage increased to 16.7% during 2007-2008 (Haider, 2011). Chowdhury, Rahman, and Burhan (2020) recognised the vital role NGOs play in the social and economic development of Bangladesh. They particularly noted the contribution of NGOs to social transformation in the country through "conducting activities like gender and empowerment work, advocacy work, and policy entrepreneurship" (p.125-126). NGOs have proven themselves as valuable

partners of the government, donors and private sectors, and NGOs have been instrumental in the development of agriculture, irrigation, livestock, fishery, population control, environment, formal education and non-formal education, women empowerment, emergency relief, disaster risk reduction, healthcare, nutrition and other areas (Chowdhury et al., 2020; M. S. Islam, 2016).

In addition to all the above areas, Bangladeshi NGOs now have to deal with climate change impacts. Threats associated with climate change have imposed additional challenges on the development activities of NGOs because they worsen poverty scenario. As a result, many NGOs, with the help of foreign donors and the government, have implemented various development projects across Bangladesh to help the marginalised communities that are worst affected by climate change. But there has been little to no research on those projects and this study aims to contribute to that research gap.

NGOs Addressing Climate Change in Bangladesh

Schipper (2007) emphasised the importance of adaptation as a complimentary strategy to mitigation and stressed the need for adaptation to cope with the warming which is resulting from previous emissions. Deeb et al. (2011) informed that "mitigation actions seek to reduce the extent of climate change by reducing GHG emissions or increasing their removal from the atmosphere" (p.39). MoEF (2009) noted that Bangladesh has miniscule contribution to global emission of greenhouse gasses (GHGs) and that "Bangladesh emitted only 0.053 to 0.045 billion tonnes (with or without LUCF) – less than one-fifth of one percent of world total – reflecting its extremely low consumption of energy" (p.23). Mitigation measures are beyond the scope of this study. Adaptation to climate change is the adjustments in natural and human systems to reduce harm and maximize opportunities to actual or expected climatic effects (Ayers et al., 2014). In simple word, adaptation measures reduce the harm of climate change impacts. Rawlani and Sovacool (2011) opined that adaptation to climate change is more appropriate and effective compared to climate change mitigation measures for less developed countries such as Bangladesh.

Palosuo (2009) argued that climate change is explicitly considered in very few development plans and projects. Besides, lack of coherence between climate change and development often leads to maladaptation in case of many development projects. Agrawala (2004) pointed out that shrimp farming that requires deliberate inundation of salt water has enormously imperilled the Sundarbans of Bangladesh. Such practices might be profitable for some in the

short term but they become harmful for the environment in the long run. There is significant lack of information on the factors which are actually responsible for the successful implementation of climate change adaptation in development activities (Biggs et al., 2013; Sherman & Ford, 2013). But there are some writings, albeit very few, which report a number of successful development projects that have effectively incorporated climate change in Bangladesh.

Pouliotte et al. (2009) articulated how adaptation is integrated into a development project that improved livelihoods of people and increased their capacity to adapt to climate change in a rural village of southwest Bangladesh. The article showcased how an impoverished rural community, a local NGO, an international development agency and an international NGO collaborated together to reduce the community's vulnerability to climate change. In the village of Subarnabad, a villager's ability to access the local NGO IDEAL and become its beneficiary was an important factor for getting adaptation training and implementing new livelihood options. IDEAL provided the beneficiaries with training and technical support to start new livelihoods and provided financial help where necessary. Project participants were able to increase their income and food production through goat and fowl rearing, salt water tolerant vegetable gardens, crab fattening, tree plantation and handicraft production. This project also showed positive spill over effects as other non-beneficiaries became interested to imitate the livelihood strategies as project participants started to reap benefits from their livelihoods.

M. Z. Islam, Jalal, Tikader, Nahar, and Barman (2015) have reported on various development projects that successfully supported different livelihood practices in *haor* areas, flood plains, drought-prone and coastal regions that are vulnerable to climate change effects. These successful projects come from a number of NGOs such as Gono Unnayan Kendra, Shushilan, Dustha Shastho Kendra, POPI, Church of Bangladesh Social Development Programme (CBSDP), BDPC and CCDB. All these NGOs received technical support from Christian Aid and were funded by the UK Government. The development projects assisted beneficiaries through re-excavation of decommissioned canals to ensure water supply for farming and promoting income generating activities such as livestock rearing, vermiculture, handicrafts, duck rearing and building floating vegetable gardens in water logged areas. The report detailed successes of these projects and how they benefitted the participating community. But they have not analysed a number of issues that played a crucial role in the success of these projects. A typical development project does not happen in isolation. It is imperative to

understand the complex and cross-cutting relationships and interactions that take place among project beneficiaries, members of local community, government officials and NGO staff members.

Rawlani and Sovacool (2011) investigated the CBACC-CA (Community Based Adaptation to Climate Change through Coastal Afforestation) project, funded and implemented jointly by various ministries and agencies of the Bangladesh Government, UNDP and Global Environment Facility. The project was implemented to create a natural buffer to hazards through sponsoring mangrove and non-mangrove mount plantations, dykes and embankments in four coastal districts, and to diversify economic activities of the inhabitants by promoting livelihoods in forestry, fishing and farming. Although the report considered the project to be successful in promoting adaptation to climate change through climate conscious development and risk management, the report noted poor organisational capacity of the involved government ministries and agencies. One respondent had this to say: "there is a lack of coordination between different government departments to identify and implement need based adaptation measures. Also the organisational capacity is missing at most of the government departments to ensure the successful and timely implementation of the [CBACC-CA] project" (p.860). The CBACC-CA project included little to no NGOs in its implementation and majority of the work was carried out by various government agencies.

As a Bangladeshi development worker who have been involved with numerous projects, I would strongly advocate, with regards to field-level implementation of development projects, for less involvement of government agencies and more involvement of competent NGOs. Chapter Four contains a case study of a development project with significant government involvement in the field-level implementation. In reality, published accounts of research in relation to development projects, regardless of whether they focus on climate change or not, have dominantly stressed on to understand why they fail. There are very few studies which endeavour to understand why a development project succeeds and even less in the case of projects that try to address climate change issues in Bangladesh.

Gaps in the Literature

MoEF (2009) informed that Bangladesh has made considerable progress in augmenting people's income and lowering poverty rate in the past two decade. However, the inevitable impacts of climate change have posed serious threats to that progress. Well thought out and effective ID projects, implemented in conjunction with capable NGOs, donors and

government support, can relieve some of these threats. Literature on factors, conditions or criteria explaining success for ID projects is rare and there is little to no research on ID projects that address climate change issues. Diallo and Thuillier (2005) advocated that success for ID projects is much broader than success in project management and that "the *raison d'etre* of a project lies in its objectives as stated in the logical framework" (p.238).

Khang and Moe (2008) informed that a typical development project cannot go on forever and that "most projects also have an ultimate goal to produce positive and significant changes that will be sustained after the external assistance comes to an end" (p.74). This issue of sustainability adds to the intangible nature of ID projects' outcomes. Moreover, the uncertainties generated by climate change effects have added more complexity in the outcome of ID projects, especially for those ones that are implemented to assist people overwhelmed by climate change in developing countries such as Bangladesh. Quibria (2010) argued that research in development has been dominated by empirical literature that are mostly based on the method of randomisation. This method has been unable to show "what works in development, to design policy, or to advance scientific knowledge about development processes" and that "it has also been opined that it cannot be the basis for a cumulative research program that might progressively lead to a better understanding of development" (p.2). Given the shortcomings of randomisation methods to generate useful insights about development effectiveness, this study takes a qualitative approach.

Reducing poverty remains a huge obstacle in many parts of the world. Acknowledging the slow pace of development interventions targeted to promote human well-being, Banik (2018) noted positive changes brought by various development and poverty reduction efforts. It has become imperative to understand what works, where it works, how it works and why it works for ID projects. The reviewed literature suggest that there is no universal way for itemising the factors, criteria or conditions that are responsible for the success of ID projects implemented in various parts of the world for addressing various issues. Each ID project is unique and has its own overt and covert mechanisms, which deserves a closer look. The objective of this study is to shed light on the subtle factors that enable an ID project to successfully attain its objectives, through investigating five ID projects implemented across Bangladesh to assist poor people impacted by climate change. This study will offer an emerging theorisation for designing and implementing ID projects that can be utilised by development organisations and NGOs, while remaining cautious that each ID project is unique and has its own set of complexities and context.

Chapter 3: Methodology

As presented in Chapter One, this study investigates the underlying factors responsible for the success of international development (ID) projects implemented in Bangladesh to help the marginalised communities vulnerable to various climate change effects. The science behind climate change, concepts of development, ID projects, Non-governmental Organisations (NGOs), climate change impacts on development activities in relation to both international and Bangladeshi literature have been reviewed in Chapter Two. This chapter explains the methodology used for the study, its justifications, what specific methods were used in the field, how data was analysed and how the findings are presented.

This study seeks to answer the following research question:

> What are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh?

The following embedded questions have risen while investigating the central research question:

- What are the impacts of climate change on the livelihood of beneficiaries of ID projects?
- What are the various livelihood training beneficiaries received from the project? How they have been successful or unsuccessful in helping beneficiaries to cope with the changing climate?
- What are the stories of success of project beneficiaries? What are the evidence of success? Explanations of why a beneficiary considers a project successful for himself/herself?
- What are the things in the project that have worked or have not worked for the beneficiaries? What has improved? Are there instances of re-thinking something or changing a strategy in the midst of a project? If yes, what has been the outcome?
- How is the working relation and closeness between project beneficiaries and staff members of implementing local NGOs? How is the communication and partnership between implementing local NGOs and international NGOs and funding agencies?
- How interactions and coordination with local government agencies, local elected politicians and local community members have helped or hindered the projects?

Considering the qualitative nature of the central research question, a multiple case study approach was taken. I employed the principles of appreciative inquiry during my investigation of five separate ID projects implemented in different regions of Bangladesh by a range of NGOs, international development organisations and donors. Research respondents consisted of direct beneficiaries of ID projects, staff members of implementing local NGOs, staffs of relevant international NGOs and development organisations, officials of government agencies involved with the projects, local elected politicians (Union Parishad[4] chairman and members) and members of local community. Data was collected through semi-structured interviews, direct observation, research journal, photographs and documents. Data was utilised to develop five case studies from the five projects. To enrich the data, written documents containing project information were used whenever available (i.e. increase in income or production).

The details of project success in terms of number of project beneficiaries, coverage of projects, number and nature of trainings provided, details of attained targeted objectives and increase in earnings or production are usually addressed in the project evaluation reports and annual reports of implementing NGOs and donor agencies. Even though such reports provide valuable insights about ID projects, they seldom provide context-specific information that showcase the underlying factors responsible for project success. As a result, the above mentioned issues were discussed less with project beneficiaries and other relevant stakeholders. More focus was given to understand the issues and factors that have resulted in real benefits for project beneficiaries. Many times I have drawn on the reported items from project and annual reports as a basis of my discussion with various project stakeholders.

Overall Research Approach

ID projects are often tasked with achieving soft objectives that are less visible and quantifiable compared to objectives associated with industrial and commercial projects (K. Ahsan & Gunawan, 2010). Though some ID projects are implemented to improve hard objectives, but they are also subject to difficulties in determining longer-term outcomes (Golini & Landoni, 2014). For an example, it is quite straightforward to track construction of slum infrastructures such as toilets or drains with regards to time, expenses and functionality, but it is more complex to measure the improvement in slum environment (sanitation, waterlogging or reduction of odour) because of these infrastructures. Many theorists and

[4] For ensuring efficient government service delivery in rural areas, Union Parishad (UP) or ইউনিয়ন পরিষদ serve as the smallest tier of local government administration. As recently, there are 4,554 UPs in Bangladesh. UPs have been broadly explained in Chapter Seven

development professionals advocate the use of qualitative approaches to gauge such improvements or intangible outputs of ID projects (Crawford & Pollack, 2004; Patton, 2002). Thus, the overall research approach in this study has been a qualitative one. Denzin and Lincoln (2003) argued that qualitative researchers attempt "to make sense of or to interpret, phenomena in terms of the meanings people bring to them" (p.5).

Patton (2002) informed that qualitative research intends to understand the "real world setting [where] the researcher does not attempt to manipulate the phenomenon of interest" (p.39). Qualitative research operates in various settings and employs different research techniques. Furthermore, it is naturalistic because it collects data from natural environment and it is descriptive and have a narrative nature that facilitates a broader understanding. Bogdan and Biklen (2007) noted that qualitative research stresses the process to clarify "how people negotiate meaning" (p.6). Teddlie and Tashakkori (2009) stated that qualitative research can be understood in terms of "gathering", "analysis", "interpretation" and "presentation of narrative information" (p.6). With regards to ID projects, qualitative methods produce locally grounded explanations and offer an all-around picture of the impacts (Mir & Bala, 2015).

Within the broad framework of qualitative research I have employed the case study approach for this study. A case study is used to tell the story of something that is interesting, unique and valuable. The accounts given by the stakeholders of the ID projects have reflected their perceptions about project effectiveness. These accounts are bounded in their respective context, time and place, which is typical of case study design (Creswell, 2007; Stake, 2003). G. Thomas (2011) defined case studies as "analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more methods" (p.513). In contrast Gerring (2004) considered case study as "an intensive study of a single unit for the purpose of understanding a larger class of (similar) units" (p.342). Each case study in this study has showcased the rationale behind a respective ID project, steps taken by the implementing NGOs with the beneficiaries to develop resilient livelihoods, construction of infrastructures (in two projects), outcomes of these interventions, working relationships with relevant government officials, local elected politicians, influential community members and collaboration among various project stakeholders. Stake (2005) argued that case study has more to do with what is to be studied rather a methodological choice and that "case study concentrates on experiential knowledge of the case and close attention to the influence of its social, political and other contexts" (p. 444). The case studies have documented the challenges faced by the beneficiaries in adapting their livelihood to

climate change and addressing other elements that make them vulnerable to climate threats, the successes and failures, partnership and complexities that developed among project stakeholders during project implementation and the role played by local community members. The central focus of this study has been to examine the factors that lead to success for an ID project as well as to understand the complexity of the factors and conditions that operate to bring about the success. I have not only looked at success but at the range of embedded reasons that are responsible for the success (or the lack of it) of these projects. Recently, there have been growing calls to utilise methods that are more grounded in the realities of practice to assess impacts of ID projects and understand inner workings of these projects (Mir & Bala, 2015).

Multiple Case Studies

Bangladesh faces various weather hazards each year which are getting worse because of climate change. Various NGOs, in partnering with donors and government agencies, have implemented successful ID projects to assist the poor communities so that they develop resilience against weather hazards induced by climate change. But success for an ID project does not come about in isolation. It involves a number of inextricably linked issues in which one cannot be understood wholly in isolation from the other. Considering the limitations in terms of time and funding (this is a self-funded PhD) and the geographic coverage of the projects, a multiple case study approach was utilised to answer the research question. I have used a multiple case study approach to have insights from five projects, which contain multiple issues of analysis involving project objectives, beneficiaries, livelihood trainings and adaptation, infrastructure development, vulnerability reduction, stakeholder partnership and coordination. A multiple case study approach is needed when a study contains more than one single case (Gustafsson, 2017).

Yin (2003) informed that multiple case studies can be utilised to "(a) predicts similar results (a literal replication) or (b) predicts contrasting results but for predictable reasons (a theoretical replication)" (p.47). A multiple case study approach was appropriate for this study because multiple cases are useful in theory-building from a larger area, providing opportunities for cross-case comparisons, showcasing pattern and explaining findings (Eisenhardt & Graebner, 2007). Baxter and Jack (2008) informed that a multiple case study "will allow the researcher to analyse within each setting and across settings" and that multiple case studies allow "examining several cases to understand the similarities and differences between the cases" (p.550). The multiple case studies have elaborated the project activities

undertaken to adapt livelihood to climate change, the extent of success of these livelihoods and other project endeavours and spill-over effects, which have been generated from the rich and holistic descriptions and narratives of the key project stakeholders. These descriptions and narratives have been collected from rural and urban settings so that readers can have a realistic picture of the lives of people implicated by climate change in Bangladesh.

This study was based on qualitative case study approach, which involved multiple data collection methods such as visiting project sites, key informant interviews, observation, research journal, documents and photos. The case study approach allows the collection of in-depth qualitative data (Kvale, 1996), which are situation specific (Stake, 2003), and provides thick descriptions of practices (Geertz, 1988). Multiple case studies are appropriate for this research because each ID project investigated has a unique context identity created by its environment. Each case study among these multiple case studies, thus, is unique and has a complex entity that operates within a number of contexts (Stake, 2003). Each case study concentrates on understanding the success experienced by beneficiaries of respective ID project, how success materialised in their eyes, project components that have been effective and ineffective, things that have changed for the project, insights and perceptions of other project stakeholders. Yin (2003) identified case study as "empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not evident" (p.13). The context of each project site is unique and climate change impacts beneficiaries of each project somewhat dissimilarly (i.e. somewhere it is salinity or somewhere it is floods). So it is imperative to provide thick descriptions of each project site where beneficiaries are living and adapting their livelihood with the help of a respective development project. Dawson (2010) noted that "a thick description of a social event or action takes into account not only the immediate behaviours in which people are engaged but also the contextual and experiential understandings of those behaviours that render the event or action meaningful" (p.942).

Selecting the Cases and Gaining Access

Five development projects were selected as case studies for this research. They were: (1) Reduce climate vulnerabilities through advance agricultural technology in the south west coastal region of Bangladesh (referred to as the Reclaim project); (2) *Haor* Infrastructure and Livelihoods Improvement (HILIP) project; (3) Urban Management of Internal Migration due to Climate Change (UMIMCC) project; (4) Pumpkins Against Poverty (PAP) project; and (5)

Strengthening Household Ability to Respond to Development Opportunities 3 (referred to as the SHOUHARDO III project).

There were four considerations for choosing the above projects. Firstly, the projects were reported to be successful by the implementing agencies, their local partners and whose beneficiaries also considered them as effective. Secondly, all the projects were designed to help vulnerable communities to deal with climate change but each project site was located in a different location of Bangladesh that are somewhat differently impacted by climate change. The Reclaim project was implemented to help people to cope with saline intrusion in the south-western coast of Bangladesh. The main objective of HILIP (still operating) is to assist marginal communities in the *haor* areas where the main problems are flash flood and waterlogging from April to October. The UMIMCC project was implemented for providing skills development training to climate migrants in various non-farm occupations and developing basic infrastructures in urban slums that are mostly inhabited by climate migrants. The PAP project was implemented to assist rural communities that are vulnerable to floods and riverbank erosion through training and motivating communities to grow pumpkins on *char* or sandbars. The SHOUHARDO III project (still operating), which is a continuation of SHOUHARDO I and SHOUHARDO II, is being implemented to augment income and food security of rural Bangladeshis who are increasingly vulnerable to floods. Thirdly, the locations of these projects have significant histories of dealing with climate related stresses. Beneficiaries of these projects are capable of providing valuable insights with regards to adapting to climate change that might prove to be useful to local and international communities who are also vulnerable to similar threats. And finally, the nature of access and freedom granted to me by the implementing organisations.

Njie and Asimiran (2014) informed that case studies "dig out the characteristics of a particular entity and its key distinguishable attributes include focus on a single unit, in depth description of a phenomenon, anchored on real live scenarios and uses multiple data collection methods" (p.36). A case study approach enables researcher to observe research participants more generally in their everyday practices within their context (Fidel, 1984), and this is what I sought in investigating the perceptions and insights of the beneficiaries and other important stakeholders about the success of these projects. Findings from these case studies include description and narration of success of these projects in helping beneficiaries to better cope with climate change, as well as failures in some cases. These findings have been developed only because I was allowed easy and uninterrupted access to research

participants, documents and reports by the implementing organisations. I started contacting NGOs and international development organisations right after developing a focused research question, while I was in New Zealand. I emailed several organisations that implemented ID projects in Bangladesh, which suited this study. In the email, I explained the purpose of the study, the research approach, the type of research participants required, duration of project site visits, and the nature of support and access required. Four organisations replied and showed interest in collaboration. We agreed to meet in-person and discuss the issues in detail once I was in Bangladesh to commence fieldwork.

I returned to Bangladesh in March 2018 and met with the officials of interested ID projects. Head offices of all four organisations were located in Dhaka and I had fruitful meetings with the project-in-charge of three projects. I decided not to work with a particular project as its project-in-charge wanted me to take one of their central staff member with me to the project site and pay for all his expenses. I could not agree with her demand as this was quite unusual and expensive. In the course of the fieldwork, I added two additional projects in the study. Thus, this study ended up with five case studies showcasing five ID projects implemented by different NGOs, their local partners and donor agencies. For each of the projects studied, I maintained close communication and coordination with one key project official from the head office who provided all necessary support in terms of logistics, information and full access to project sites and project stakeholders. This key project official would inform the project staff members in the project sites about my fieldwork plan and the project staff members would assist me with visiting projects locations, arranging interviews, taking photos and other necessary activities.

My study of the five case projects does not include a comprehensive account of the entire project. Rather, my focus is more on the issues of project application, implementation, extent of effectiveness for the beneficiaries, project successes and failures, communication and coordination among project stakeholders. Originally, this study intended only to focus on the rural communities vulnerable to climate change and projects implemented in rural Bangladesh. However, a number of research participants from the Reclaim project informed me that many of their acquaintances from the project area have migrated to urban cities. This prompted me to include climate migrants in the study to investigate how they were living in a major metropolitan. I made contact with GIZ, an international development organisation, who implemented the UMIMCC project that worked with climate migrants. Thus, the UMIMCC project was included in the study.

Research Participants

Getting in-depth response to the research question is important for a case study (Stake, 2005). To obtain such in-depth responses, I included key stakeholders of five ID projects as research participants. These research participants are the main sources of data in this study and their insights, perceptions, viewpoints and experiences are the heart of this research. Polkinghorne (2005) identified research participants in these terms: "individuals who can provide relevant descriptions of an experience are primarily those who have had or are having the experience" (p.140). The project beneficiaries of these projects are the central characters of this study. I consider them as the central characters because they have embraced a whole host of techniques, modified age-old livelihoods and learning new ways to cope with climate change. Project beneficiaries have provided me with accounts of their struggles with climate change, the new realities of their lives, how they are reducing existing vulnerabilities, how they are learning to make their livelihood more resilient with the help of the projects and how their lives were before the manifestation of climate change effects. The stories they told me sometimes reflected hope that they can withstand this climatic onslaught, sometimes reflected despair that everything can be wiped out by a super cyclone, riverbank erosion or the slow encroachment of saline water. In four project cases, these beneficiaries resided in rural Bangladesh and were involved in various on-farm, off-farm and non-farm livelihood. The only exception was the UMIMCC project, which was implemented in urban areas, whose beneficiaries resided in urban slums and were engaged in various non-farm livelihood.

The staff members of the implementing NGOs and international development organisations were another group of important research participants. Three of the five ID projects have been implemented through partnerships between international NGOs and local NGOs (the Reclaim project, PAP project and SHOUHARDO III project). The HILIP project does not involve any international NGOs, rather it is implemented by the Local Government Engineering Department (LGED), a government agency, through partnership with local NGOs. The UMIMCC was a unique project where the international development partner took an active role in project implementation. This project was coordinated by GIZ, a German development organisation, which worked very closely with the implementing NGOs and government partners in the project sites. I wanted to include donor agencies of all five ID projects in the study. However, officials of donor agencies were reluctant to take part in the interviews. Nonetheless, I am indebted to all donor agencies, implementing NGOs and

international development organisations for providing access to project stakeholders, projects sites and documents.

With the exception of the PAP project, all the ID projects maintained close coordination and communication with officials of relevant government agencies and members of local community. In many cases, official and trainers of various government agencies such as Department of Agricultural Extension (DAE), Department of Livestock Services (DLS) and others have contributed in project deliveries and they have also been included as research participants. These officials and trainers have provided trainings and learnings to project beneficiaries about adapting livelihood to climate change as well as promoting climate suited livelihood that were unknown to beneficiaries. Similarly, members of the local community such as elected local politicians, community leaders, businesspersons and youths have played an auxiliary role in the projects and they have provided useful insights with regards to the impact of these projects in the respective localities. The following tables list all the research participants (provided in their pseudonyms) and their respective roles for all five projects:

Table 3.1: Research participants from the Reclaim Project

Pseudonym	**Role of the Research Participant**	**Gender**
Aarti	Project beneficiary	Female
Selim	Deputy Assistant Agricultural Officer of Department of Agricultural Extension (government official)	Male
Bilal	Local community member (youth)	Male
Kanta	Project beneficiary	Female
Moinuddin	Local community member (businessperson)	Male
Fuad	Project beneficiary	Male
Tahira	Project beneficiary	Female
Fahmida	Fieldworker of Shushilan (NGO staff member)	Female
Bipul	Project beneficiary	Male
Amina	Chief Coordinator of Shushilan (NGO staff member)	Female

Kushal	Project beneficiary	Male
Shamima	Local community member (local elected politician)	Female
Munem	Project Officer of Shushilan (NGO staff member)	Male
Girish	Project Leader of Christian Aid (NGO staff member)	Male
Sattar	Project beneficiary	Male
Sujon	Project beneficiary	Male
Roksana	Project beneficiary	Female
Arif	Local community member (youth)	Male
Alok	Project beneficiary	Male

Table 3.2: Research participants from the HILIP Project

Pseudonym	**Role of the Research Participant**	**Gender**
Masud	Project beneficiary	Male
Haroon	Project beneficiary	Male
Jishan	Project beneficiary	Male
Ujjal	Trainer of PDO Technical Training Institute (NGO staff member)	Male
Surovee	Project beneficiary	Female
Kamrul	Project beneficiary	Male
Minar	Project beneficiary	Male
Belayat	Project beneficiary	Male
Rofik	Project beneficiary	Male
Rupa	Project beneficiary	Female
Mokbul	Field Staff of LGED (government official)	Male

Heron	Livestock Officer of Tahirpur Upazila (government official)	Male
Shamsul	Local community member (youth)	Male
Bimol	Local community member (youth)	Male
Mannan	Project beneficiary	Male
Jalil	Local community member (local elected politician)	Male
Ikram	Local community member (youth)	Male
Liakat	Local community member (youth)	Male
Polash	Local community member (youth)	Male
Jorina	Local community member (local elected politician)	Female
Afsar	Project Manager of LGED (government official)	Male
Shuvo	Livelihood Coordinator of LGED (government official)	Male

Table 3.3: Research participants from the UMIMCC Project

Pseudonym	**Role of the Research Participant**	**Gender**
Mita	Project beneficiary	Female
Xavier	Team Leader of GIZ (staff member of international development organisation)	Male
Rina	Local community member (community leader)	Female
Robin	Regional Director of Caritas (NGO staff member)	Male
Sumon	Construction Officer of Caritas (NGO staff member)	Male
Gomez	Administration Officer of Caritas (NGO staff member)	Male
Jahanara	Project beneficiary	Female
Rajiv	Project beneficiary	Male

Mustafiz	Assistant Director of Department of Social Services (DSS) Khulna (government official)	Male
Nargis	Training Manager of UCEP (NGO staff member)	Female
Alif	Senior Instructor of UCEP (NGO staff member)	Male
Ramesh	Training Coordinator of UCEP (NGO staff member)	Male
Parvin	Project beneficiary	Female
Dinesh	Head of Technical Training of UCEP (NGO staff member)	Male
Abid	Chief Planning Officer of Khulna City Corporation (KCC) (government official)	Male
Rezwana	Project beneficiary	Female
Sohani	Project beneficiary	Female
Maliha	Project beneficiary	Female
Sanjeeb	Project Coordinator of GIZ based in Khulna (staff member of international development organisation)	Male
Banu	Local community member (community organiser)	Female
Anjuman	Local community member (community organiser)	Female
Tuli	Local community member (community organiser)	Female
Aleya	Project beneficiary	Female
Kashem	Project beneficiary	Male

Table 3.4: Research participants from the PAP Project

Pseudonym	**Role of the Research Participant**	**Gender**
Nimai	Project Coordinator of Practical Action (NGO staff member)	Male

Siddique	Project beneficiary	Male
Motaleb	Project beneficiary	Male
Jashim	Project beneficiary	Male
Izaz	Project beneficiary	Male
Biplob	Project beneficiary	Male
Subir	Project beneficiary	Male
Alam	Project beneficiary	Male
Dilu	Project beneficiary	Male
Sabri	Project beneficiary	Female
Nahar	Project beneficiary	Female
Rahima	Project beneficiary	Female
Nasima	Project beneficiary	Female
Kabir	Local community member (businessperson)	Male
Wahida	Fieldworker of UDPS (NGO staff member)	Female
Abbas	Project Manager of Practical Action (NGO staff member)	Male

Table 3.5: Research participants from the SHOUHARDO III Project

Pseudonym	**Role of the Research Participant**	**Gender**
Anowar	Project Leader of ESDO (NGO staff member)	Male
Sujata	Technical Officer of ESDO (NGO staff member)	Female
Shahbaj	Local community member (local elected politician)	Male
Motin	Community Extension Agent of Department of Livestock Services (government official)	Male

Reyad	Technical Manager of CARE (NGO staff member)	Male
Afroza	Project beneficiary	Female
Jui	Project beneficiary	Female
Jainab	Project beneficiary	Female
Nabila	Project beneficiary	Female
Moryam	Project beneficiary	Female
Kofil	Deputy Assistant Agricultural Officer of Department of Agricultural Extension (government official)	Male
Anis	Deputy Assistant Agricultural Officer of Department of Agricultural Extension (government official)	Male
Jahirul	Deputy Assistant Agricultural Officer of Department of Agricultural Extension (government official)	Male
Afzal	Livelihood Coordinator of ESDO (NGO staff member)	Male
Tulip	Project beneficiary	Female
Monowara	Project beneficiary	Female
Reshma	Fieldworker of ESDO (NGO staff member)	Female
Mokarram	Monitoring Officer of CARE (NGO staff member)	Male
Minu	Project beneficiary	Female
Asma	Project beneficiary	Female
Taslima	Fieldworker of ESDO (NGO staff member)	Female
Saleha	Fieldworker of ESDO (NGO staff member)	Female
Rajia	Project beneficiary	Female
Aklima	Project beneficiary	Female
Saikot	Resilience Coordinator of ESDO (NGO staff member)	Male

My Position as a Researcher

Janesick (2003) noted that it is important to identify the role of the researcher and acknowledge the extent of access and privilege granted to the research site, stating that "the qualitative researcher studies a social setting to understand the meaning of participants' lives in the participants' own terms" (p.51). Being a qualitative researcher myself, I had to acknowledge my role as a researcher from various lenses, which included my current position as a PhD candidate, my previous position as a development worker and my social status perceived by the research participants. Though I had prior experience of working in the implementation of ID projects, I did not work in ID projects that addressed climate change or in the regions where the five projects were/are implemented. I wanted to create a friendly and stress-free environment for the research participants so that we can have insightful conversations. This was not easy because I had work experience as a staff member of NGO and UN agency where I interacted with beneficiaries and other stakeholders of ID projects with a very different approach. In those roles I was more concerned with smooth implementation of projects but here I was a qualitative researcher.

Before starting my fieldwork, I practiced with my senior PhD supervisor to change my demeanour from a project staff member to a researcher. Though beneficiaries and stakeholders of ID projects regularly interact with national and international researchers and consultants, I had to make sure that research participants were comfortable and undaunted while talking with me. While talking with the research participants, I played the role of a facilitator. I started the conversations by asking them general day-to-day questions, enquired about their families, hobbies and shared similar experiences. Instead of acting as an expert, I quickly developed a rapport with them. I encouraged research participants to express their experience with the projects and show me how their lives have changed because of their involvement.

Data Collection Process

Creswell (2007) defined data collection "as a series of interrelated activities aimed at gathering good information to answer research questions" (p.118). I have employed different sources to collect data from the case projects that include- audio-recorded semi-structured interviews, observations, photos, research diary and documents from relevant organisations. I have used the above multiple sources for data collection as advised by Yin (2003) that "any finding or conclusion in a case study is likely to be much more convincing and accurate if it

is based on several different sources of information, following a corroboratory mode" (p.98). Multiple data sources have enabled me to capture different point-of-views and enabled me to understand research participants' practices and perceptions of outcomes. This consolidation of data has contributed to a more rounded understanding of each of the development projects.

Throughout the data collection process, I have followed the principles of appreciative inquiry. Cooperrider and Whitney (2001) defined appreciative inquiry as "the co-evolutionary search for the best in people, their organisations, and the relevant world around them" and that appreciative inquiry involves "the art and practice of asking questions that strengthen a system's capacity to apprehend, anticipate, and heighten positive potential" (p.3). Bushe (2013) argued that appreciative inquiry should start with a general sense of appreciation and should involve collaboration and provocation. There are a number of ways to conduct appreciative inquiry and it is incorrect to say there is any one way to do it. Though I started from a position of appreciation, I have dug deep on project elements that were not considered successful or effective by the project stakeholders, particularly by the beneficiaries.

For conducting fieldwork for each of the five case projects, I was attached to a project staff member who possessed comprehensive knowledge about the respective project and all its components. My first interview would be with that person where I would learn about the project in detail, components, outcomes, beneficiaries and other relevant stakeholders. During the course of this interview we would develop a working list of potential research participants who are likely to provide information needed to answer the research question. Interviews would commence based on this list and the project staff member would schedule meetings with the participants. This staff member would take me to beneficiaries, government officials and local community members. Interviews with project beneficiaries were mostly conducted in their houses. Sometimes beneficiaries took me to their fields, ponds and workshops so that I have a genuine understanding of their endeavours. Photos of many such visits have been included throughout data chapters. Interviews with government officials and local elected politicians were conducted in their offices. I have visited the residences and work places to conduct interviews with local community members who have been involved with the project. Interviews with NGO staff members were conducted, sometimes in the NGO offices, sometimes in the fields or on the way to the field. Two interviews were conducted with staff members of an international development organization (GIZ) and those interviews were held at its head office in Dhaka and branch office in Khulna. While conducting interviews with participants, sometimes I would ask about other potential participants who could provide

more information. This approach is known as snowball sampling which is useful for locating information-rich key participants where one participant helps recruiting other participants (Naderifar, Goli, & Ghaljaie, 2017).

Semi-structured Interviews

The primary source for data for this study was semi-structured interviews with research participants. Fontana and Frey (2005) argued that interviewing is more than just an exchange of questions and answers, rather interviewing can be characterised thus: "two (or more) people are involved in this process, and their exchanges lead to the creation of a collaborative effort called the interview" (p.696). Greenwood and Te Aika (2008) found face-to-face interviewing essential because it allows participants to assess the extent to which they can trust the researcher and contribute information to the research that they consider important. A researcher can choose from different types of interviews that are appropriate for differing circumstances, such as unstructured interviews (that are more like conversations), structured interviews that employ close-ended questions, and semi-structured interviews that is often referred to as the middle ground with open-ended questions (Leech, 2002). I conducted semi-structured interviews with every research participants because they enabled interviewees to provide their accounts, perspectives and experiences in their own terms. These interviews allowed me to elicit valuable responses from the participants as well as follow up with further discussion, which has been instrumental in developing a rounded picture of the project sites. I have conducted interviews in two forms- one-to-one interviews and interviews containing 2-5 interviewees. Interview forms were chosen through considering the availability of participants, time and logistical limitations.

Dicicco-Bloom and Crabtree (2006) advocated semi-structured interviewing as "generally organised around a set of predetermined open-ended questions, with other questions emerging from the dialogue between interviewer and interviewee⁄s" and that "semi-structured in-depth interviews are the most widely used interviewing format for qualitative research and can occur either with an individual or in groups" (p.315). Beside that open-ended questions allow a participant to express his/her opinion without being influenced by the researcher (Reja, Manfreda, Hlebec, & Vehovar, 2003).

Reja et al. (2003) proposed that the advantages of open-ended questions are that they "include the possibility of discovering the responses that individuals give spontaneously, and thus avoiding the bias that may result from suggesting responses to individuals, a bias which

may occur in the case of close-ended questions" (p.161). The use of open-ended questions enabled me to capture a diverse range of information about the success (or the lack of it) of the projects. For conducting each interview, I would have five to eight initial open-ended questions ready depending on the respondent and the flow of the interview. These questions generally entailed topics such as: the impacts of the project in the lives of the beneficiaries; the nature of learning and training; changes or modifications in livelihood promoted by the project; role of the NGO staff members; involvement of local community; nature of assistance from relevant government agencies and involvement of donor agencies. I often supplemented the above questions with probing questions to obtain clarification and deeper responses. Often such interactive back-and-forth led to interviewees spurring new topics that were not anticipated by me. Interviews lasted between ten to eighty minutes depending on the respondent, since some of them provided detailed responses interweaving different element of the project and some provided short answers.

Before starting an interview with a research participant, I often engaged in informal discussion to develop rapport. Leech (2002) highlighted the importance of developing rapport that "without rapport, even the best-phrased questions can fall flat and elicit brief, uninformative answers" (p.665). I made a point to build rapport with the beneficiaries before starting each interview, so that beneficiaries would be at ease and engage in smooth conversation. The interviews started with exchanging pleasantries, followed by inquiries about family members. In many interviews, I have used contemporary events (i.e. football World Cup of 2018) to break the ice with a particular interviewee. Sometimes I used something unique to that area such as local food, historical sites or celebrities. After that, I gave a brief explanation of the research, assured interviewee about the anonymity and harmlessness of the study, and proceeded with more focused questions and queries about the project. Instead of asking direct questions about the project and using the answers as data, I invited the participants to be co-investigators of the study.

I created a friendly and confidential space and started with open-ended questions. Instead of dominating the research with only my questions, I took a collaborative approach where the participants were free to talk about anything that they deemed important. An open-ended approach to interview is a first step towards a collaborative construction of accounts of practices (Greenwood & Te Aika, 2008). I employed a similar approach in conducting interviews with all categories of research participants. My previous work experience as a development professional helped immensely in this regard because I am used to maintaining

close communication and friendly relationship with various stakeholders of development projects.

Direct Observation

Patton (2002) noted the advantages of direct observation- "through direct observations the inquirer is better able to understand and capture the context within which people interact" and "first-hand experience with a setting and the people in the setting allows an inquirer to be open, discovery oriented, and inductive because, by being on-site, the observer has less need to rely on prior conceptualisation of the setting, whether those prior conceptualisation are from written documents or verbal reports" (p.262). In addition to interviewing research participants, I have utilised direct observation to understand the actions taken by the project beneficiaries. Observation enabled me to see how research participants acted in their real lives and it also helped me to generate a more holistic perspective. I have visited agricultural fields, ponds, homesteads and businesses of project beneficiaries to witness first-hand how they were learning and coping with the help of the projects. With regards to farming activities, I have witnessed new and improved agricultural techniques and inputs learned by the beneficiaries. I was able to observe livestock such as cows, goats, pigeons and chickens, which belonged to the beneficiaries. Beneficiaries received trainings, vaccination support and information that made their livestock less vulnerable to diseases. Many of the beneficiaries were given support in non-farm occupations and I visited a number of such businesses and witnessed beneficiaries making a living. In case of projects implemented in rural Bangladesh, I saw many beneficiaries who utilised every inch of land in their homesteads and crop fields to produce something. For the project implemented in an urban city, I visited a slum inhabited by climate migrants to observe various slum infrastructures developed by the project. Robson (2011) informed that observation allows a researcher to understand the attitude, body language and feelings of the research participants through observing and listening. Observation gave me a sense of the behavioural dynamics among different project stakeholders. In case of much effective projects, I could easily see the closeness between NGO staff members and project beneficiaries. I also witnessed effective coordination and collaboration among NGO staff members, members of local community and government officials.

Photographs

During the fieldwork, I have often taken photographs of the research participants, tangible project outcomes, interesting interactions and other pertinent objects to provide a real life picture of the projects and their outcomes from the ground. Patton (2002) argued that qualitative researchers are increasingly utilising photography because a picture can amount to a mountain of words and that "photographs can help in recalling things that have happened as well as vividly capturing the setting for other" (p.308). I took some photos that showcased various livelihood techniques and teachings used by the beneficiaries to address the changing climate. I have taken fresh snapshots that captured initiatives such as farmers using climate-suited seeds, ensuring freshwater supply in the crop fields, vaccination for livestock and other activities. In the case of projects that involved developing infrastructures, I have taken photographs of toilets, bathing chambers, walkways and drain lines in a slum (Chapter Six), and guide-wall for embankment protection in the *haor* areas (Chapter Four). Some photographs were taken by NGO staff members that captured my interactions with various research participants. Sometimes it was not possible for me to take photos and conduct interview at the same time. In such cases, I asked NGO staff members to help me with the photos and they were happy to do it. Harper (2005) considered photographs as the visual traces of the actual world that "describe the phenomenon under question" and that "the photographs also subjectively connect the viewer to the argument" (p.748). During data collection from the five case projects, some projects were in implementation stage, while some had already ended. It was not possible to take pictures of ongoing project activities, especially for projects that had already phased out or were in the process of phasing out. I have taken some photographs from the implementing organisations in such cases and acknowledged their sources. All these photographs, both fresh and sourced, can be considered as windows that provide a close look in the lives of the beneficiaries of these projects.

Research Journal

As argued by Robson (2011) that it is useful to maintain a research journal to keep record of all important activities needed for undertaking this type of a research and people often use journals while collecting data and that "it is certainly invaluable then as it helps to keep in one place details of appointments and meetings, what data were actually collected, where, when, etc." (p.1). I have used a research journal keep a written record of several elements

such as: the effects of climate change on project areas and on the livelihoods of the project beneficiaries; keeping notes while conducting interviews to record emotions, physical gestures and body language that cannot be captured by audio recording; lack of odour in an urban slum thanks to developing and maintaining slum infrastructures. As noted by Janesick (1999), "for qualitative researchers, the act of journal writing may be incorporated into the research process to provide a data set of the researcher's reflections on the research act" (p.505).

Likewise I have often noted my reflections and observations from the fieldwork in my research journal. After coming back from the field each day, I would sit at a table and record pertinent issues in the journal as analytic memo. The research journal also contained interview questions for different participants groups. As the interview would go on, I would take note of an issue that required further elaboration. For an example, I was interviewing some farmers who received technical and financial support to grow pumpkins through one of the projects. During the course of the interview, farmers hinted to the notion that there are other vegetable and spice crops that are far more profitable than growing pumpkins. I made a note of this in my journal. After I had gone through all the prepared questions, I started inquiring about the other vegetables and spice crops. The farmers started to provide invaluable insights about their agricultural practices and profitability that reflected their farming acumen (the contents of this interview has been presented in the Chapter Four. When I returned to New Zealand and started data analysing and writing, I would often go back to the journal to relive some of the key moments from the field.

Documents

I have chiefly used primary data from beneficiaries and other project stakeholders from five case projects. The primary data was often reinforced through a review of secondary information and documents from relevant NGOs, development organisations and donors. Patton (2002) argued that using, studying and understanding documents are one of the important elements of conducting qualitative inquiry. While I was negotiating my access with different NGOs and development organisations prior to commencing fieldwork, I informed them about the required documents. All of them agreed to provide documents that were not confidential and sensitive. However, I struggled to get sufficient documents and reports from couple of projects due to staff attrition, change of management and project completion. These secondary data sources mainly consisted of project evaluation reports, project proposal,

implementation plan and annual reports of implementing organisations. Though these documents provided important details and insights on the projects, they did not contain context-specific information that was needed to understand the underlying success factors and enabling conditions. However, these documents provided information on project background, key project components, beneficiaries and stakeholders, objectives and targets of the project. Therefore, the sources, both primary and secondary, together have generated richer narratives and fuller picture of the case projects. I would often shift back and forth from primary data collected from the field to secondary project related documents while developing the chapters.

Analysing Data

Thorne (2000) noted that "in order to generate findings that transform raw data into new knowledge, a qualitative researcher must engage in active and demanding analytic processes throughout all phases of the research" (p.68). While I was collecting data from a particular development project, I simultaneously started data analysis. After conduction each interview or observing something pertinent to the project, I would think about the insights, opinions and gaps that were being expressed by the participant. I would discuss some of these reflections with other participants that required further elaboration. As advised by Denzin and Lincoln (2003), qualitative research should involve concurrent data collection and analysis, this informal data analysis in the field gave me an opportunity to elicit new information. This also allowed me to include few project stakeholder as research participants who were not initially considered for interviewing, which proved to be useful as these participants would often provide another point of view on the project and its inner workings.

Active Listening

After collecting data from all five projects, I returned to New Zealand and started formal data analysis. I started with the interviews from the projects and listen to each audio-recorded interview repeatedly. Instead of jumping back and forth from on project to another, I started with a particular project and continuously listened to all the interviews. The process of intense listening led to the generation of large amount of data and I was able to identify interview parts that were relevant for the study. During the interviews I had prompted and encouraged participants to explain more on issues that were important. The following conversation reflects how interviews were carried out. I was interviewing a fieldworker of Shushilan who implemented the Reclaim project in Shyamnagar Upazila. We were discussing

about the issue of high incidence of staff turnover in NGOs and I wanted to know her side of the story:

Author: I see a great deal of staff turnover in NGOs. Does it happen in Shushilan? Do staff members stay with Shushilan?

Fahmida: Sometimes people would leave if she/he gets a better job offer from other NGOs and that's why some leave.

Author: For how long have you been working with Shushilan and how did you get involved with the NGO?

Fahmida: I have been working with Shushilan since 2007. I was in class 8 when I first started working with Shushilan. I was married then as people here tend to have their daughters married off at a very young age. Shushilan was implementing a project with Water Aid at that time and I was beneficiary in that project. This project arranged various meetings for developing the village and I attended. Shushilan was hiring people. So I joined.

Author: Wow! At such a young age. How did your husband react when he heard that you are planning to work?

Fahmida: I got consent from my husband and he said if you think you can do it, then go for it. I started working in that project, after that I worked in a micronutrients project, then worked in a project funded by IUCN. Now I have been working in the Reclaim project for 7 years.

Author: Seven years is a long time to work in the same project. How do you feel?

Fahmida: As I am working here for a long time, I have certain ideas what beneficiaries expect from me. A new staff member will require some time before she/he understands these issues and develop intimacy like I have. A new staff might also have disagreements with a beneficiary.

Author: Do you like your work?

Fahmida: I am quite grateful to Shushilan and I like its activities. Since my childhood I wanted to be a nurse because I wanted to help ailing people and people who have little to no money. But I was not able to be a nurse as I did

not have money to study nursing. This work opportunity with Shushilan has given me the opportunity to serve people.

Author: Is there any other reason?

Fahmida: Oh yes! Shushilan gave me scope to work from home. My only daughter studies in class nine. By the grace of god, she is very smart and she is the topper in her class. She got the government scholarship in class eight. I have to look after her and her studies very closely because my husband stays busy in the shrimp *gher*[5] during the day.

Transcribing and Translating

I transcribed all the interviews and all dialogues because I did not want to leave out anything. This was certainly an arduous task, which took me five months to transcribe eighty two interviews with one hundred and six interviewees across five development projects. This allowed me to jump from one interview to another without having to play the audio recordings repeatedly. All interviews, except one, were taken in Bangla since it is the mother tongue of all research participant and the researcher. One interview was conducted in English as the interviewee was a German national and he did not speak Bangla. I listened to the recordings closely and repeatedly to capture every single word, emotion, phrase, idiom or proverb expressed by the participants. While translating Bangla dialogues in English, I was careful not to lose the core essence and meaning the participants conveyed. Translating so much data from Bangla to English was quite challenging since English is my second language, but the depth, breadth and richness of the resulting information kept me going. I also witnessed that different participant groups talked in dissimilar fashion in Bangla. When participants from rural areas spoke, they reflected more rural flavour compared to staff members of NGOs and government officals who were more educated and spoke in a more formal style. I invested a lot of time to ensure that these unique flavours do not get lost during translation.

Thematic Categories

As I was reading interviews from a particular case project, I was quite reluctant to identify themes before going through all interviews from that project. I wanted to keep an open mind during the initial interviews because I did not want to be fixated on themes emerging from

[5] A *gher* (চিংড়ি ঘের) is a modified field for cultivating shrimp. A gher is constructed by building high peripheral dikes

only these initial interviews. So I went through all the interviews, key observations, photographs, important details recorded in the research journal and documents from a project. I have taken the same approach for all five case projects. For an example, initially 'presence of committed NGO staff members' emerged as a thematic category in one of the projects, but later I found that this theme was embedded in another thematic category of that particular project.

I have presented thematic categories that effectively and efficiently explain the underlying success factors and enabling conditions for each project. Beneficiaries of three projects found the components and learnings to be very effective. Each of these projects contains five-six thematic categories. These three case projects have been presented in three separate chapters (Chapter Five, Chapter Six and Chapter Seven). In case of the two remaining projects, the majority of the key stakeholders (project beneficiaries to be particular) have noted several positive aspects while reporting various shortcomings. These two case projects have been presented in Chapter Four. Finally, an emerging theorisation has been offered in Chapter Eight that draws from all five development projects investigated in this study.

Presentation and Language

During the process of writing the data chapters, I was pondering about how readers can have a clear understanding of the practices and learnings of the project beneficiaries, their constant battle against climate change and the endeavours of key project stakeholder to help the beneficiaries. As noted by Janesick (2003), "the researcher must find the most effective way to tell the story and to convince the audience of the meaning of the study" (p.63), I realised that narrative story telling is the most effective way to tell the stories about how people from marginalised communities are negotiating the adverse effects of climate change in Bangladesh. The five project cases of this study are ID projects, which are chiefly concerned with reducing poverty, improving standards of living and protecting human rights (Golini & Landoni, 2014). Every ID project is expected to achieve various humanitarian and social objectives that are often intangible, much less visible and quantifiable (Youker, 2003).

Pulley (1994) noted the limitations of quantitative measures that "quantity does not capture issues of meaning, attitude, or morale" (p.22). Thus, I have employed a qualitative approach, particularly narrative storytelling that is a useful mean to present the intangible outputs of a development project (Crawford & Pollack, 2004). Pointing to the dearth of storytelling in development, Carr (2010) noted that "quantifiable data, such as crop yields, child weighs, and

income become the lenses through which we view the Global South, and the challenges facing those who live there" and questioned: "but what of other, more experiential sources of information about these challenges?" (p.220). Narrative storytelling has enabled me to not only elicit important information form the stakeholders of these development projects, but also record their ideas, learnings and practices in the real-world setting. Narrative style gave me the opportunity to present what was working or what was not working in these projects in an expressive manner. During the presentation of each case project, I have given a brief context so that readers have an understanding of the basis of the project. These include: the impact of climate change in the project area, the main goals of the project, project beneficiaries and other stakeholders, project components and duration. Accounts of the research participants have been presented exactly the way they were said. I was also aware of the fact that I needed to look beneath the surface and understand the basis of their accounts. In addition to interviews, I have often drew on photographs, notes in the research journal, observations and project documents to present each development project in a rounded fashion.

Acknowledging the limitations in transforming life experience of human beings into language, Polkinghorne (2005) stated: "language is our primary access to people's experiences" and "to capture the richness of experience in language often requires the use of figurative expressions such as metaphors and narratives" (p.139). I have strived to select the language of this study in such a way that would be comprehendible for development practitioners and academics of Bangladesh and foreign countries. I have utilised language in various ways in presenting data. During interviews, research participants have often used Bangla proverbs and idioms. They have often used Bangla words, such as the name of a particular variety of paddy or the name of a unique social event, which are typical of a certain area or region of Bangladesh. These words, proverbs, phrases and idioms would lose their original meaning when translated literally from Bangla to English. In such cases, I have resorted to using the original Bangla term and offered meaningful translation and explanation in the text or in footnote.

Trustworthiness

As argued by Yin (2013), qualitative case study "consists of an in-depth inquiry into a specific and complex phenomenon (the 'case'), set within its real-world context" (p.321). Multiple case studies generate data relevant to each particular case, and these data need to be considered with regards to their trustworthiness. A major source of trust was my previous

work in the field of development. Before starting my PhD study, I was involved with a number of development and aid projects in Bangladesh. As I started data collection from the project sites, I had professional understanding of how a development project is implemented from a perspective of a project staff member. In addition, I complemented this experience through broad reading in development project literature. Though, I was aware that this could led to biases and I might develop unconscious assumptions during data collection. Prior to data collection, I and my PhD supervisors fleshed out the possible biases I might have and we engaged in different role plays that assisted me look at the projects on the ground with a more critical eye. Another measure I employed was checking my interpretations with research participants. After the end of each interview, I would summarise the key information given by the participant and gave him/her the opportunity to make changes or amendments. Though all the interviews were recorded, this summarisation of key points ensured that I understood the essence of the participant's reflections. In addition, I often cross-checked data from participant to participant. For an example, a project beneficiary informed me about the importance of using climate-suited seeds for cultivating paddy. This prompted me to inquire the role of climate-suited seeds with other beneficiaries of that project. I often applied this technique to validate data.

I also asked every participants if they wanted to read the transcript of their interview. Only one participant wanted to read his interview transcript. I put his transcripts on an accessible online platform and he suggested two minor changes. These suggestions were: inclusion of the name of a location that was not mentioned during the interview and using a synonymous word. I have made the changes according to his suggestion. During translating interviews from Bangla to English, I strived to keep the actual meaning that interviewees conveyed in their mother language. It was quite challenging to transfer that meaning in English. To this end, I checked portions of the translation with two other Bangladeshi students who were pursuing doctoral studies in other areas at the University of Canterbury. The availability of critique served as another measure of trustworthiness. While I was collecting and analysing data in the field, I often presented my emergent understandings in our research lab at our university department, which contains international and a few Bangladeshi doctoral students. The members would often ask questions about the data and would provide useful feedback to refine my thought process. My inclusion of the SHOUHARDO III project, which was the fifth and final case project of the study, was motivated by one such feedback from our research lab. I have also presented my findings in several international conferences in front of

researchers and development professional from Bangladesh and other countries. I was often asked this important question in these conferences: once a toilet or bathing room has been constructed in an urban slum in Bangladesh, how will it be maintained to ensure functionality?

Ethical Considerations

The University of Canterbury mandates the compliance of ethical standards to protect the rights of research participants. Before starting data collection process, I attained ethical approval for conducting this study from the Educational Research Human Ethics Committee (ERHEC) of the University of Canterbury on 8 December 2017. For this approval I submitted all necessary documents (i.e. consent form and information sheet for all research participants) to the ERHEC for review. Key to this approval was my commitment to maintain anonymity of the participants, transparency and cultural sensitivity in the study. Denzin and Lincoln (2003) noted the importance of "developing situational and trans-situational ethics that apply to all forms of the research act" (p.22). I adhered to all the ethical procedures and guidelines of the ERHEC.

I deliberated the objective and purpose of the study with the research participants prior to starting an interview. Every participants was provided with a consent form and information sheet before the interview. I explained all the details of the contents of the information sheet and consent form in Bangla to some of the interviewees who could not read or write English. The information sheet contained details of research topic and research intensions, how the information will be recorded, stored and shared, and the rights of the participants. I also explained to all the interviewees that their involvement was completely voluntary and they had the right to withdraw from the research if they wanted. I also assured them that all the information will be used only by me, while the involved NGOs and donor agencies will not be given any data. In addition, I assured the participants that I will use this the data for this study and subsequent publications and conferences; and data will not be used for any type of NGO or donor project evaluation or annual report. After assuring an interviewee of his/her privacy and making him/her aware that I would record the interview through an electronic device, I got his/her signature on the consent form and started the interview. I also provided an information sheet to each participant that contained information about the study and contact details for getting in touch with me, the senior supervisor of the study or the university.

Though all the interviewees were happy to let me use their real names in the thesis, I have used pseudonyms. As a result, all the names used in the thesis are pseudonyms to ensure anonymity of the participants. A Similar strategy was taken in terms of photos. Even though research participants permitted me to take photos and use them in the thesis and other publication, I wanted to make sure there were no risks for the participants. Thus, I have blurred the faces in such a way that research participants will not be identified. I also took permission from participants before taking any pictures of them or their belongings. The photos have provided an added layer of meaning to the context and realities of the participants' lives while preserving anonymity of the participants.

Ethical standards also involved respecting the cultural and religious values of the participants and local community. Research participants of this study came from diverse backgrounds such as marginal farmers, climate migrants, NGOs staff members from rural and urban areas, skilled and experienced government officials in rural and urban settings, foreign and local staff members of international development agencies, influential local politicians such as UP chairman and members and local community members. I was aware of this and tried my best to fulfil my ethical responsibilities, both as an individual and a researcher, of acknowledging each participant's perceptions, outlooks and values with equal respect and provide an honest representation of each voice. Bogdan and Biklen (2007) opined that "like the words sex and snake, ethics is emotionally charged and surrounded with evocative and hidden meanings" (p.48). I have refrained from asking any questions or enticing conversations that might go against the values and cultural norms of the participants.

Chapter 4: Partially Successful Development Projects

The objective of this study is to understand the factors that make international development (ID) projects successful in terms of being effective for the beneficiaries and other stakeholders. The study is guided by the following research question: what are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh? However, in contemporary reality, poor performance of development projects and subsequent disappointment of project beneficiaries and stakeholders have become the norm rather than the exception (Ika et al., 2012). Development projects often are unable to attain all their objectives for a number of reasons: inadequate project design and planning, lack of shared objectives among project stakeholders, delays in project implementation caused by bureaucratic practices, absence of early problem detection mechanisms, lack of project coordination, cost overruns and more (K. Ahsan & Gunawan, 2010; Youker, 2003). Of the five projects covered by this study, beneficiaries and relevant stakeholders of two projects have expressed mixed opinions on their effectiveness. Although, providing some valuable benefits to their beneficiaries, these two development projects have missed some opportunities to deliver more value for the beneficiaries. This chapter examines these two projects, PAP and HILIP, one of which was implemented in the northern *char* areas of Bangladesh, while the other is currently being implemented in the north-eastern *haor* areas of the country[6].

These two development projects have been successful in some aspects but they had some disadvantages. Practical Action, an international NGO working in Bangladesh, implemented the Pumpkins Against Poverty (PAP) project that was highly successful in helping farmers to grow pumpkins on underutilised *char*. Nonetheless, this project did not look at emerging opportunities that the locals themselves were taking advantage of. Lack of co-learning and an indifference to the local context undercut the usefulness of the PAP project. Local Government Engineering Department (LGED), an influential government agency, is implementing the Haor Infrastructure and Livelihood Improvement (HILIP) project in the *haor* areas to help rural communities cope with climate change through a variety of components. Some of these components have been highly effective, while some components have been less potent. HILIP indeed identified beneficiary needs to a great deal of accuracy

[6] Detailed explanation has been provided about *Char* and *Haor* areas in the body of the chapter

but have been unable to adequately address some of these needs. This chapter will exhibit these two projects and discuss successful aspects as well as the shortcomings.

Practical Action's Pumpkins Against Poverty (PAP) Project

Practical Action originally started by the name of Intermediate Technology Development Group (ITDG) in 1966, with the objective of promoting efficient techniques that were labour-intensive. In 1984, the organisation changed its focus from a technical hardware approach to a development approach through employing economists and social scientists. In 2005, the organisation changed its name to Practical Action with a focus on generating practical, rounded and systematic approaches to reduce poverty and providing context-suited development solutions (Practical Action, 2019). This NGO operates in numerous countries of East and Southern Africa, South Asia and Latin America to reduce poverty through agriculture, renewable energy, water and sanitation, climate change adaptation and resilience activities (Practical Action, 2020a). In Bangladesh, Practical Action has been active for more than two decades in providing technology support to improve livelihood strategies of the poorest. The NGO has amassed noteworthy experience in understanding the main causes of poverty and offering practical solutions (K. Rahman & Reza, 2012). With its central office in Dhaka, Practical Action implements development projects in rural and urban areas that focus on assisting and teaching marginalised farmers to improve their farming practices and improving the lives of people in urban slum settlements and refugee camps (Practical Action, 2020b).

Bangladesh is located at the delta of three major and dynamic rivers: Ganges, Brahmaputra and Meghna; and more than 230 rivers and their tributaries flow through the country carrying billion tons of sediments and discharging huge amounts of water (G. M. M. Alam, Alam, Mushtaq, & Clarke, 2017; M. H. Sarker, Huque, Alam, & Koudstaal, 2003). Bangladesh also receives heavy rainfall that mostly occurs in monsoon and this rainfall is caused by weak tropical depression from the Bay of Bengal (Shahid, 2010). Due to climate change, an increased monsoon rainfall is causing more sediment transport along the river basins of Ganges, Brahmaputra and Meghna, which has increased riverbank erosion along these rivers (A. K. Ahmed & Chowdhury, 2006). This constant process of erosion and accretion in the rivers of Bangladesh causes sandbars to emerge either as islands in the river or as land adjacent to the riverbank (N. Ahmed, 2011). Such sandbars are known as '*char*' in Bangladesh (M. H. Sarker et al., 2003), and these *chars* serve as an avenue for settlement and livelihood for people, especially those who have lost their land due to riverbank erosion.

Three types of *char* or sandbars are found in Bangladesh: sandbars located next to embankments covered with adequate sediment that are widely used for cultivating various kind of crops, sandbars located next to embankments with little or no sediment deposit that often remain unused, huge sandbars within riverbed appearing downstream in the south that are more permanent in nature and widely used for settlement and farming (K. Rahman & Reza, 2012).

Image 4.1: A char or sandbar appearing in the riverbed (green line in the middle)

Practical Action implemented the Pumpkins Against Poverty (PAP) project that assisted landless and poor farmers to grow pumpkins on underutilised sandbars of Rangpur and Kurigram Districts[7]. I interviewed Sabri, a woman in her early 40s and a beneficiary of the project. It was mid-September 2018 and as we were walking on the government-built embankment on Teesta River. She told me about her life:

> We are locals here and we all have lost land because of riverbank erosion. We have set up our homes on adjacent areas here on the land owned by the government. I lost my previous house in the river about 25 years ago. Flood is quite common here and water level was quite high the day before yesterday. The dry season will start after 50-60 days later and we will rush to the adjacent *char* to cultivate crops. These are the land that were lost to riverbank erosion and often such land would come back in the form of *char,* then this land is considered as government land. We use these *char* on the basis of mutual understanding.

[7] For administrative and governance purpose, Bangladesh is divided into 64 districts (জেলা)

Image 4.2: Riverbank prone to erosion in Teesta River

Since the mid-2000's, Practical Action has been working with extremely poor farmers of northern Bangladesh who have lost their ancestral land to riverbank erosion. These landless farmers often take refuge on the embankments of Teesta, Dharla and other rivers and utilise adjacent *char* or sandbars to produce a range of crops, vegetables and spices. The NGO started with the Disappearing Lands Project (2004-2009) that worked with local farmers to improve various livelihood options (i.e. agriculture, fishery, livestock, light engineering and small enterprise) in Rangpur and Gaibandha Districts. Training farmers to grow pumpkins on underutilised and less fertile *char* was one such livelihood option. The NGO went on to scale up pumpkin cultivation and other livelihood avenues by implementing the Pathways from Poverty (2009-2016) project in four riverbank erosion prone districts (Rangpur, Gaibandha, Nilphamari and Lalmonirhat) of Bangladesh (Khatavkar, 2012).

Practical Action simultaneously implemented a small project by the name of Securing Water for Food (2014-2017) that assisted some pumpkin farmers with irrigation and water storage. Enriched with the experience of implementing the above development projects, Practical Action implemented the Pumpkins Against Poverty project (referred to as the PAP project) from 2016 to 2018, which chiefly focused on producing pumpkins on sandbars in Rangpur and Kurigram Districts. This two year project was funded jointly by DFID (Department for International Development) and UKAID Match funds. PAP supported six thousand households or about twenty three thousand individuals affected by riverbank erosion with a view to assist them out of poverty through increased income (Adair, 2018; Nehrin, 2019). These beneficiaries were provided comprehensive support with regards to pumpkin cultivation, storage and selling.

Throughout the course of project implementation, Practical Action partnered with Uttara Development Programme Society (UDPS). Founded in 1986, UDPS has implemented various development projects in areas such as climate change adaptation, formal and non-formal education, microcredit, women and child development, community mobilisation, food security and disaster management. The central office of this NGO is located in Dhaka and it maintains five zonal offices across Bangladesh (UDPS, 2020). I have conducted my fieldwork in various PAP project sites in mid-September of 2018 (figure 4.1). I have conducted interviews with project beneficiaries, members of local community, Practical Action staff members and fieldworkers of UDPS. The project had already phased out two months before my fieldwork. Below I have presented both positive aspects and inadequacies of the PAP project.

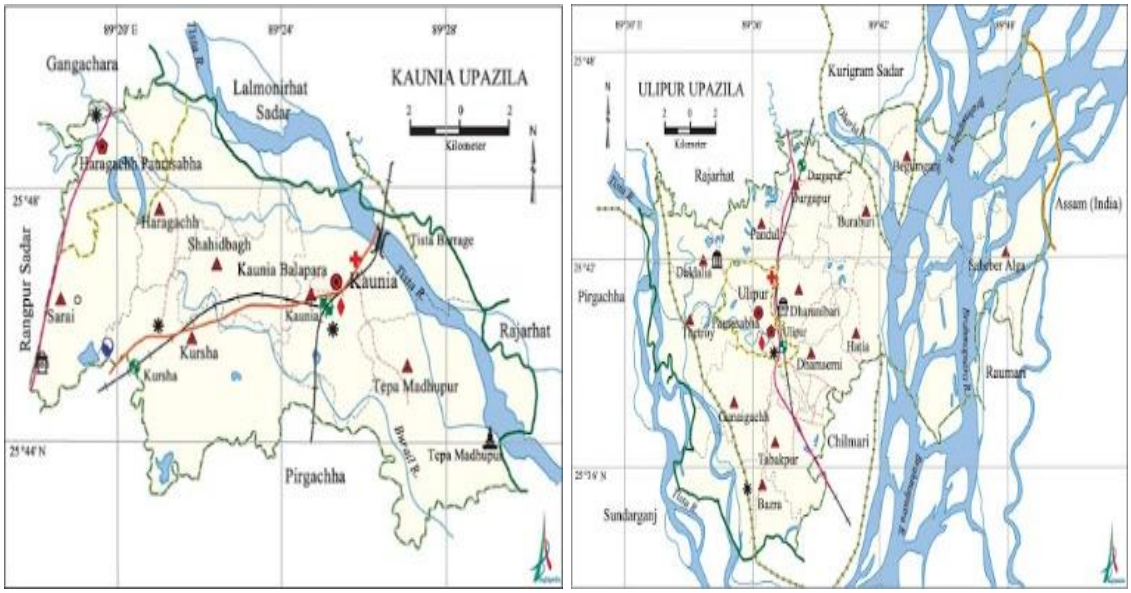

Figure 4.1 & 4.2: Locations of PAP project

Source: http://en.banglapedia.org/index.php?title=Kaunia_Upazila (left) http://en.banglapedia.org/index.php?title=Ulipur_Upazila (right)

Growing Pumpkins on Underutilised Sandbars

The PAP project employed a number of selection criteria for including beneficiary farmers. They were: farmers who usually reside on government land or embankments, who do not have adequate food for 2-3 months a year and households that do not earn more than 2000-3000 *taka*[8] per month. Wahida, a fieldworker of UDPS, briefly explained the process of taking beneficiaries:

[8] Taka (টাকা) is the Bangladesh currency that is referred to as BDT. USD 1= BDT 84 & NZD 1= BDT 51 (on 6th May 2020)

> We start by surveying the area, we have a criteria and according to that we made an initial list of beneficiary farmers from our survey. Then we arranged meetings with local elites and influential people. We categorised farmers into three groups- low income, mid-income and higher-mid income. And finally, we selected our beneficiaries from low-income households and provided them with all available support from the project.

After being selected the beneficiaries were provided with practical training and learning. These learning processes consisted of on-the-job work in the field that included planting seeds, making and applying compost fertiliser and providing irrigation. Practical Action employed two technical officers for training project beneficiaries and staff members of UDPS. I asked Nimai, Practical Action's staff member responsible for coordinating the PAP project, about the rational for training the staff of UDPS. He replied:

> There are many NGOs who implement project through partner NGOs. We also implement projects through partners but we closely work with our partners. Beneficiaries can't really distinct between who is Practical Action and who is UDPS. This pumpkin cultivation on sandbar is our technology and the technology must be owned and trusted by our partner NGO. Newly appointed staff of UDPS get training and learn about the technology through on-the-job training. Ultimately they started to own the project and became capable of handling it. We and our partner have worked intensively together in the field, this is the biggest factor for success in my opinion.

The beneficiaries were organised into groups of twenty farmers for cultivating pumpkins in a targeted area of a sandbar that was adjacent to their residence. I engaged in a conversation with Siddique, Motaleb, Jashim, Izaz and Biplob (five beneficiary farmers of the project) of Daldalia Union Parishad (UP) located in Ulipur Upazila of Kurigram District and enquired about growing pumpkins on sandbars:

> Author: Growing pumpkins on sandbars. That's interesting. How do you do it?

> Siddique: We make pits on sandbar that are 3-3.5 feet deep and fill each pit with 12 to 15 kg of cow manure. We put chemical fertilisers such as urea, potash, phosphorus in the mixture and cover the pit with sand. Two days later, we remove the sand and plant 4-5 seeds in each pit.

Author (to Siddique): Oh! That seems straightforward.

Motaleb (interrupting the author): Much work is left. The cow manure will only remain fresh if we apply water. In order to keep the manure fresh we had to apply some water each day for which the project gave us mugs. Applying too much water would cause fungus to grow and plants to falter. Project staff gave us all the teaching and we followed them.

Siddique: We continued to water the plants regularly. Starting with one mug a day, then two. We had to water more as the plants grew big and we got fertilisers and pesticides from the project. It takes three to four months to harvest the pumpkins. We got good yield but we had to work very hard for it. Each of us made around 100 pits.

Author: Tell me about the support you got from the project?

Izaz: The project provided us with pumpkin seeds, fertiliser, irrigation machine, mug, pesticides and spade. They gave us money to make canals and gave us cash 2600 *taka* to buy cow manure. In other words, we farmers only had to provide physical labour, everything else was provided by Practical Action and UDPS. We did not have to pay anything from ourselves.

Biplob (interjecting): Because there are thieves everywhere and the project built a guardhouse in the field where we put a guard to watch over the pumpkin fields when the pumpkins were close to harvest. We paid the guard 6000 *taka* per month and we members paid that amount. Except that we did not have to pay anything.

Jashim: To sum it up, whatever necessary to cultivate pumpkin, was provided by the PAP project. We're not telling you a lie and it is good when you acknowledge someone's help and what they have done for you. We are people who have lost land, house, community - everything to riverbank erosion. So it is one of the livelihoods we pursue here. We did not know about growing pumpkins on pits and they taught us that.

On an average, these farmers utilised around 18-23 decimals[9] of land each that accommodated about 100 pumpkin pits. Pumpkin production was impressive since the farmers were provided with comprehensive financial and technical support from the project. Beneficiaries were able to harvest around 600-700 pumpkins each in 2018. Izaz, a beneficiary farmer of the project, elaborated on production and earnings:

> By the grace of god, we had a good harvest. I harvested more than 600 pumpkins, half of them were hybrid and half of them were local. After giving to family and friends, I made around 12,000 *taka* from the pumpkins I was able to sell.

Image 4.3: A beneficiary farmer with her harvest. Source: Practical Action

M Khatun, Rashid, Miah, Khandoker, and Islam (2017) in their study of the pumpkin growers of Rangpur and Gaibandha Districts reported that farmers were able to make profit after carrying the production costs themselves. Their study noted that farmers of Rangpur had to spend 2.23 *taka* for producing 1 kg pumpkin and they were able to sell it for 5.5 *taka* per kg, while the production cost and selling price of 1 kg pumpkin were 2.50 and 6 *taka* respectively for the farmers of Gaibandha (p.659). Undoubtedly, profit margins were much higher for the PAP beneficiary farmers since the project covered all cost related to pumpkin production and the farmers only had to provide physical labour. For more than a decade, Practical Action has been working tirelessly to promote pumpkin cultivation in northern districts of Bangladesh, which received considerable appreciation (Kamruzzman, Islam, Islam, & Siddiquee, 2017; Nahar, Akteruzzaman, & Al-Amin, 2016). The organisation has certainly helped farmers in

[9] 100 decimals= 1 acre

crop diversification and augmenting their earning, thus making their livelihood more resilient from adverse effects of climate change.

Issues with Pumpkin Cultivation and Selling

Beneficiary farmers have mentioned quite a few challenges associated with pumpkin cultivation. The pits were filled up with cow manure that had to be carried to the sandbars in bags. Although the PAP project covered the cost of buying this crucial element, farmers have expressed discomfort of moving such huge quantities to the sandbars. For an elaboration, beneficiaries used around 12-15 kg of cow manure for a single pumpkin pit. So each farmer had to transport 1.2-1.5 tonnes[10] of cow manure for making 100 pits, which is a challenging work. In my interview with Wahida, UDPS's staff member, I asked her about the physical aspect of pumpkin cultivation. What she told me was quite telling:

> Many beneficiaries express disinterest after cultivating pumpkins for the first time, this is the reality. It is physically daunting and women usually have to do bulk of the work, while their men look for more financially rewarding work to provide for their families. And this work cannot be done by elderly people. That is why women have to take care of the pumpkin fields.

I investigated this issue with Nahar, Rahima and Nasima, who were female beneficiaries of the project from Kurigram District. I inquired about various aspects of pumpkin cultivation with them:

> Author: How did you like growing pumpkins on sandbars?
>
> Rahima: It was good but the problem is that it required way too much labour. We have to water the pumpkin plants every day. I had to water 100 pumpkin pits every day and I got tired of doing that. It was very physically challenging. During hot seasons, *char* become extremely heated and it gets difficult even to set foot on them.
>
> Author (to Nahar): You had to water the plants every day?
>
> Nahar: You have to water pumpkin plants every day and each plant has to be individually watered at the root. But you don't have to apply water every day for other vegetables and crops. The entire field can be watered just by turning

[10] 1 tonne= 1000 kg

on the tap or switch for other crops. Pumpkin plants start to slouch if they are not watered at least every other day and pumpkins will not grow on those plants. As a result, we have to provide much more labour in nurturing pumpkin plants.

Nasima (supplementing Nahar): We did not have much rain last year, that's why farmers had to water the pumpkin plants excessively.

Another drawback with pumpkins is that they cannot be stored for very long in a climate like that of Bangladesh. A fully ripened pumpkin can only be stored for a month through applying lime. But after that it starts to rot and farmers have to sell it off or consume it. Nasima, a beneficiary of the project, compared pumpkins with two predominant crops of the area:

Pumpkins cannot be stored for more than a month. But we can store onions and peanuts for much longer period. We harvest onions and peanuts during the months of March, April and May. We can store and sell onions till October and November. I still have onions stored in my house. Onions do not rot for months though they shrink a little. But peanuts do not rot at all. Peanuts do not change in storage and remain the same way as if they were just plucked. Peanuts can be stored for more than a year.

Aside from the storage issue, the selling price of pumpkins was the biggest bottleneck for the beneficiaries. In the project sites of Rangpur and Kurigram, pumpkins are usually sold in 100s. PAP beneficiaries grew two varieties of pumpkins: Bangla variety (each pumpkin weighs around 7-8 kg) and Hybrid variety (each pumpkin weighs around 1.5-2.5 kg). Local traders are often reluctant to buy the large Bangla variety and they only pay 3200-3600 *taka* for one hundred pumpkins, thus farmers approximately get around 4.5 *taka* per kg. The Hybrid variety is usually sold for 2300-2500 *taka* per hundred and farmers get around 12 *taka* per kg. During the harvest of 2017, farmers got offers from a few traders based in Dhaka who offered 10 *taka* per kg for the Bangla variety. However, the farmers were asked to hire trucks and bear the cost of transporting pumpkins to Dhaka. This was very difficult for the farmers and they declined. Subir, a beneficiary farmer of the PAP project, expressed his frustration:

We do not even get half the price compared to selling price of pumpkins in Dhaka. The market is very low in Rangpur, Kurigram and Ulipur. You will see huge amount of pumpkins sitting there if you visit these local markets.

Image 4.4: Author in conversation with beneficiary farmers

Noman, Huda, and Rahman (2014) studied some beneficiary farmers of Practical Action from the Pathways from Poverty project (2009-2016) in Rangpur District. They showed that the low price of pumpkins during peak season was the biggest constraint faced by every beneficiary farmer. They also listed some other major constrains: insect and pathogen attack, difficulties in irrigation, the laborious nature of cultivation, rotting during the storage period, and many others (p.172). Karim and Ateh (2016) also corroborated the low price of pumpkins as farmers had very little market access (p.9). Practical Action was aware of the lower price of pumpkins in 2017 and took a number of steps. The project invited the District Marketing Officer (DMO) of both Rangpur and Kurigram Districts and asked for their assistance in this regard. DMOs are government officials who help farmers to get a fair price for their produce. The DMOs advised them to make contact with traders of Mahasthangarh, which is the biggest market for pumpkins in North Bengal. Practical Action staff members and some beneficiary farmers went to Mahasthangarh and invited pumpkin traders to visit project sites. When they visited, a workshop was arranged for them where they were formally introduced with the pumpkin farmers and afterwards they visited the sandbars to observe the pumpkin fields. The traders were impressed after seeing sandbars full of pumpkin plants and expressed interest to purchase.

However, these measures proved to be futile as beneficiary farmers faced the same problem after the harvest of 2018. Rahima, a female beneficiary of the PAP project, explained what happened with the pumpkin price during February-April in 2018:

> I made 100 pumpkin pits and some made around 110-115 pits. But again, we could not get a good price for the vegetable. Traders would come here with trucks and they would buy the vegetable from us at a very low rate. Usually the

> price was 5 to 6 *taka* per kg for the Bangla variety. When we harvested pumpkins, there were pumpkins all around this area, so naturally the price went down. Another problem with pumpkins is that you cannot store it for too many days as they start to rot. Now[11] the price is better, the hybrid variety is 14 *taka* and the Bangla variety is 11 *taka* per kg. But we no longer have any pumpkins to sell now because they cannot be stored for this long. Each farmer produced around 600-650 pumpkins and we were forced to sell them at very low price. I do not feel like cultivating pumpkins again. We could not make any profit in pumpkins if you take into account the labour we have to give. If I work as a day labourer, I can make 300 *taka* per day but I don't even get that much if I invest a day in the pumpkin field. We have to water the pumpkin plants every day and sometimes we had to water twice a day.

I interviewed Kabir, a well-to-do farmer who resided adjacent to a project site in Rangpur District. Since Kabir was affluent, he was not included in the project. He understood the local price dynamics well and explained why the project farmers did not get a good price for the pumpkins:

> Production of pumpkins was very impressive and the project did everything to help the beneficiary farmers. The project took around 1800 farmers from this area alone who cultivated pumpkins. You can imagine the huge supply of pumpkins when they were harvested. The price went down quickly because supply was tenfold than demand. One of my nephews, who was a beneficiary of the project, 400 of his hybrid pumpkins were rotten because he was not able to sell them. There was no demand so there was no sell.

Practical Action officials provided farmers with two varieties of pumpkin. The hybrid variety needed to be consumed or sold right after harvest because it would start to rot within a couple of days. They gave another variety of pumpkins that were supposed to last long. They assumed that this variety could be stored for a year if farmers harvest pumpkins when fully ripe. But it was not the case as farmers could only store these pumpkins for a month because of the hot and humid climate of the area. Perhaps the NGO extrapolated the idea of storing pumpkin for longer periods from countries with colder and dryer climate but it did not fit in

[11] September 2018

Bangladesh. A combination of huge yield and fast decaying pumpkins dragged the prices down and left farmers disappointed.

Higher Preference for other Crops

Riverbank erosion has claimed houses and agricultural land of many of the beneficiary farmers of the PAP project and this has been happening since the 1980s. Dilu, a beneficiary farmer from Rangpur District, told me about his life and livelihood:

> We have learnt about farming from our fathers and grandfathers, who were also farmers. We are children of farmers and we are involved in this livelihood for all our lives and we do not know any other work. We have lost our land at the hands of riverbank erosion and when there is a new *char*, we use them for farming. And that is how we are living our lives. We can cultivate potatoes, watermelon, corn, tobacco and other crops. You can cultivate all these crops from November to March. Potatoes, watermelon and tobacco give us the highest profit. Aside from that, other vegetables grow here. You can grow anything on the sandbar if you deposit little bit of alluvium[12] and ensure irrigation.

Salman, Husnain, and Aneel (2018) noted that farmers utilise a thin layer of alluvium or sediment, which is often found on sandbars to produce potatoes, onions, chilli, tobacco, corn and other crops (p.195). M. Haque, Islam, Auyon, Rahman, and Marzia (2019) reported that many farmers of Kurigram District use the fallow sandbars to grow onions, peanuts, watermelons, pumpkin and squash (p.257). Beneficiary farmers of Kurigram District have become experts in cultivating onions and peanuts on sandbars. Farmers grow peanuts and onions on sandbars by depositing four inches of alluvium layer on top of the sand and providing timely irrigation to the field. Biplob, who received support for cultivating pumpkins from the PAP project, explained why he found peanuts and onions to be so much more profitable:

> We would have appreciated more if the project provided support for producing peanuts and onions. Peanuts are easily grown on sandbars and they fetch better price as well. We consider 1 *maund*[13] as 40 kg in this area. We can sell one

[12] Alluvium (পলিমাটি) or sediment is loose and unconsolidated sediment, which has been eroded and reshaped by water

[13] 1 *Maund* (মণ) = 40 kg (equivalent) in Rangpur and Kurigram. In some places of Bangladesh, 1 *Maund* is considered as 37.32 kg (equivalent).

maund of peanuts for 2400-2500 *taka*, so we farmers get about 60 *taka* per kilo for peanuts. The price of onions is very high now, yesterday I sold onions to a local vendor for 55 *taka* per kg. The local onions that we grow are much more expensive than the ones imported from India, which you can get for 35 *taka* per kg. In simple words, if I only cultivate 5 decimals of land, I would get at least 80 kg of onions, 40 kg of peanuts. We would not get too many pumpkins from 5 decimals of land.

Jashim, an elderly farmer, invited me in his house and took me to a make-shift storage room where he stored peanuts. There were at least 30-35 large bags full of peanuts that he harvested six months ago. He explained to me why farmers prefer onions and peanuts over pumpkins:

> Listen son, we will cultivate onions and peanuts even if we don't get any support. We cultivate these crops from our own interest because we get more profit from onions and peanuts. The farming cost is also less for peanuts and onions, and they are easy to cultivate. Onions may rot after 7-8 months but peanuts don't rot at all. If you visit again in January or February, I will show you how we cultivate onions and peanuts next to the pumpkins if the project returns. If you provide us support in onions and peanuts, we will prosper exponentially because there is no loss in these two crops.

Image 4.5: Jashim with his peanut storage

This profitable cultivation of peanuts in Kurigram District has motivated the DAE (Department of Agricultural Extension) officials of Rangpur District to ascertain whether it can be successfully replicated in their area. DAE is a government agency that assists farmers

across Bangladesh to improve agricultural production through research, training and consultation. A couple of beneficiary farmers from Rangpur District informed me that their area was visited by DAE officials accompanied by land surveyors. This visit took place several days prior to my fieldwork and they have surveyed 50 acres of sandbar to cultivate peanuts. DAE would include some of the beneficiary farmers of the PAP project in peanut cultivation. Aside from this new possibility, beneficiary farmers of the Rangpur District are proficient in producing potatoes, watermelon, tomatoes, tobacco, corn, paddy and other crops on sandbars. I interviewed Alam, a beneficiary of the PAP project from Rangpur District, who is an expert farmer in producing potatoes. He explained:

> I mainly grow potatoes. Other than that, I cultivate watermelon, pumpkins and corn. I value all crops. The cost of cultivating potatoes is much higher but we can make lots of profit if the market is up. This season I was able to harvest 70 *maund*[14] of potatoes. My livelihood is chiefly dependent on growing potatoes and I cannot survive without it. Here we grow pumpkins in the area that surrounds the potato field and we have been doing this type of farming prior to the project. We have been growing potatoes here for the past 12-15 years. Before that there were very little potato cultivation and we used to grow more paddy. Then we saw good potato harvest and we started to get good money for that. Since then we prioritise potato cultivation in this east side of Rangpur.

I interviewed Subir who is another beneficiary from Rangpur District. Unlike Alam, he has become an expert in cultivating seasonal fruits, especially watermelons. Subir cultivated pumpkins as well but only as a bonus and he emphasised producing watermelons. He explained his reasons:

> A watermelon can weigh up to 5 kg and I usually get 15 *taka* per kg. So I sell a piece for 75 *taka* and get more profit. Even when I harvest 2500 pieces of watermelons, I can easily sell them because the traders would be at my door for buying them. With watermelons there is no issue of storage because we can sell the fruit in a day or two because there is always demand. Traders would profit at least 25 *taka* per piece because you have to pay between 100-200 *taka* to buy a watermelon from the market. So you see why we make more money in watermelons. In case of pumpkins, they are only 5-6 *taka* per kilo at farmers'

[14] 70 *maund* = 2800 kg

> level and they rot quickly, sometimes we would use them to feed our cows. Pumpkin is not particularly tasty and we do not like eating it that much. You need to consume something when you cultivate it and we do not know what we will do with so much pumpkins. It is very easy to eat watermelons and you can eat it instantly from the ground. You cannot do that with pumpkins. The price of pumpkins naturally goes down when you produce so much. We often got exhausted watering pumpkin plants under the burning sun.

In addition to the above mentioned crops, beneficiary farmers of the PAP project from both Rangpur and Kurigram Districts produce corn, tomatoes, garlic, lentils and tobacco on the vast sandbars. Nahar, a female beneficiary from Kurigram District, made impressive gains in growing tomatoes:

> I planted 40 tomato plants on the sandbar and had a very good harvest. I got 4-5 kg of tomato from a single plant. You can make more money by growing tomato whilst providing less labour on it compared to pumpkins. Tomato has demand all around the year and people like it. Few months ago, I sold tomatoes for 60 *taka* per kg.

The PAP project focused intensely on growing pumpkins, which ultimately limited its usefulness to the beneficiaries. A very interesting exchange took place while I was conducting interviews with some beneficiary farmers of Kurigram. As I was about to conclude the interview with the farmers, we were joined by Nimai who was Practical Action's staff member responsible for coordinating the PAP project. Nimai overheard the farmers talk about high price and profitability in onions and peanuts. The following conversation between farmers and Nimai illustrated Practical Action's outlook:

> Nimai (to all farmers): We work with the crops that no one cultivates, but we'd have to lease land if we want to cultivate onions and peanuts.
>
> (the farmers rebut him instantly)
>
> Motaleb: No no, we cultivate onions and peanuts on *char*. There is no need to lease any land.
>
> Nimai: Tell me what else you want from us, you mentioned onion and peanut.

Siddique: Corn, cucumber, melon and *boro*[15] paddy.

Jashim (says with confidence): We grow all these crops and vegetables on *char*.

Nimai (to all farmers): So peanuts, onion, corn and other crops can be grown on sandbars. We cannot provide support for crops and vegetables that are cultivated by everyone, we need new ones.

This was probably the first time Nimai was taking suggestions from the beneficiary farmers and the NGO had been working in the region for 12-15 years. Many development projects such as the PAP tend to work towards a fixed goal while paying little attention to the surroundings. Instead of applying this top-down approach the project would have been much more useful merely by listening to farmers. Despite their lack of education, Bangladeshi farmers nowadays think like traders. They have sound knowledge about cost and profitability of producing various agricultural goods. If NGOs want to deliver successful development projects, they need to ask the right questions and be more attentive to opinions and views of the beneficiaries.

In many cases development projects do ask the right question and are able to determine beneficiary needs with greater effect. Addressing those needs is a further issue and the following project showcases a combination of hits and misses.

LGED's Haor Infrastructure and Livelihood Improvement (HILIP) Project

The Local Government Engineering Department, commonly referred to as the LGED, is one of the largest government engineering agencies in Bangladesh. LGED started its activities in the 1960's through Rural Works Programme (RWP) with an objective to improve physical infrastructures of rural East Pakistan (present day Bangladesh). The organisation sought to reduce rural poverty by improving communication infrastructures, developing rural markets and boosting agricultural production (Banglapedia, 2015). In its current structure, LGED is one of the principal operational wings of the Ministry of Local Government, Rural Development and Co-operatives (MLGRDC) and is headed by a chief engineer. The activities of LGED are visible across the country through development of rural infrastructure that has improved living standards and reduced rural poverty. LGED also maintains a

[15] *Boro* (বোরো): One of the most commonly cultivated varieties of paddy in Bangladesh

significant presence in the urban areas. The organisation provides technical support, capacity building and governance improvement assistance to urban municipalities and city corporations (LGED, 2019). While there is widespread consensus that government departments in Bangladesh are grossly inefficient and wasteful, LGED is considered to be one of the exceptions (Fujita, 2011). One of the reasons behind LGED's reputation is that compared to other government departments, it usually implements development projects at a faster pace, thus realising project benefits sooner. The effectiveness of LGED has been widely acknowledged by Bangladeshi and foreign donors alike (World Bank, 2009). Being one of the largest governmental departments with more than 10,000 staff all over the country, LGED implements hundreds of projects funded by the Government of Bangladesh and foreign donors.

One of such development projects is the Haor Infrastructure and Livelihood Improvement Project or commonly referred to as the HILIP project. The HILIP project has been implemented with the objective of enhancing livelihood opportunities and reducing poverty in five *haor* districts of Sunamganj, Kishoreganj, Habiganj, Brahmanbaria and Netrakona (IFAD, 2011). With various unique hydro-ecological properties, *haors* are located in north-eastern part of Bangladesh that cover around 1.99 million hectares of area (Nowreen, Murshed, Islam, & Bhaskaran, 2013). *Haors* are large bowl-shaped floodplain depressions that accommodate 19.37 million people. They are wetland habitats that include rivers, lakes, canals, streams and large plains spread across the Sunamganj, Sylhet, Habiganj, Maulavibazar, Netrakona, Kishoreganj and Brahmanbaria Districts (BHWDB, 2012). The *haor* ecosystem has been developed by the hydrology and topography of the Meghna River basin (Mustafa et al., 2019). The low-lying *haor* areas turn into huge waterbodies during monsoon, transforming into lucrative fishing resources. Water starts to recede with the reduction of monsoon rainfall, thus leaving highly fertile land for *boro* paddy cultivation.

Natural resources and livelihood sources of the *haor* areas are facing serious threats from natural hazards such as flash floods, changes in discharge of upstream rivers, hailstorm and drought, which have been intensified by climate change (UNDP, 2012). The flooding in the *haor* areas is chiefly caused by the rainfall pattern of the upstream catchment of Assam, Meghalaya and Tripura of India (Jakariya & Islam, 2017; Nowreen et al., 2013). On 28 March 2017, an early flash flood overflowed and crushed embankments of the *haor* districts and damaged 160,170 hectares of almost ready to harvest *boro* paddy, causing major financial losses to thousands of marginal farmers (Ferdushi, Ismail, & Kamil, 2019). These

annual flash floods and regular flooding impose enormous pressure on the farmers and fishing community of the *haor* areas. The HILIP project has been implemented to help reduce the poverty of the *haor* people and make their livelihood less vulnerable to various threats aggravated by climate change.

The project contains six components: 1) communication infrastructure, 2) community infrastructure, 3) community resource management, 4) livelihood protection, 5) capacity and knowledge for building resilience and 6) project management (LGED, 2020). These components have the following goals: (i) improving road access to local markets, livelihoods and services; (ii) protecting villages from extreme weather events, increasing mobility and economic activity of rural people; (iii) ensuring marginalised communities have access to government fishery resources and maintaining biodiversity of these resources; (iv) fostering on-farm, off-farm and non-farm livelihoods for project beneficiaries; (v) making local communities and institutions resilient against climate change effects through developing flash flood warning system and (vi) ensuring smooth project management where resources are used cost effectively. The project is financed by a combination of loans and grants. The International Fund for Agricultural Development (IFAD) provided 55 million USD as a loan and 1 million USD as a grant, the Government of Bangladesh granted 32 million USD and the Spanish Trust Fund (STF) loaned 30 million USD for the project. HILIP also received an additional grant of 15 million USD from IFAD's Adaptation for Smallholder Agriculture Programme to strengthen components 2, 4 and 5 of HILIP through a small overlapping project titled Climate Adaptation and Livelihood Protection (CALIP) (IFAD, 2016). According to LGED (2020), HILIP has received 134.84 million USD in total funding and is slated to be implemented from January 2012 to June 2021.

HILIP is a unique project among the five ID projects of this study. This project has been implemented by a government department with very little NGO involvement, whereas the other projects have been implemented by Bangladeshi and international NGOs with varying degrees of partnership with various government departments. HILIP partnered with a local NGO that provided vocational training to project beneficiaries of Sunamganj District. The project chiefly partnered with other government departments such as the Department of Agricultural Extension (DAE), Department of Livestock Services (DLS), Department of Fisheries (DoF), Haor Development Board (HDB) and others; and ministries such as the Ministry of Land (MoL). HILIP is the largest ID project covered by this study in terms of funding, duration and area coverage. HILIP directly supported 234,930 project beneficiaries

by providing income generating opportunities through daily wage earning, agricultural training, livestock support and non-farm vocational training. Moreover, HILIP has indirectly benefitted many more people of the five *haor* districts by developing vital physical communication infrastructure (i.e. roads, culverts and bridges), crucial village infrastructures (i.e. embankments protecting villages from flash floods and riverbank erosion) and building resilience to extreme weather events (IFAD & LGED, 2020). HILIP is being implemented in five *haor* districts and I have conducted my fieldwork in Sunamganj District (figure 4.2), which is extremely vulnerable to annual flash floods and erosion triggered by strong waves in deep *haor* areas.

Image 4.6 & 4.7: Tanguar Haor during the height of monsoon

I conducted my fieldwork in August 2018, during the height of the monsoon season and covered villages around Sunamganj Sadar Upazila and a village located in remote Tanguar Haor area. As a result, I was not able to witness the effectiveness of the road communication infrastructure and fishery resources developed by the project because they remain submerged during the rainy season and summer months. However, conducting fieldwork during the harshest weather period gave me the opportunity to see the practicality of the village protection resources developed by the project. In addition, I was able to observe the outcome of the various livelihood avenues promoted by HILIP for its beneficiaries. To this end, I interviewed project beneficiaries, trainers of a partner NGO, LGED staff members, relevant government officials, local elected politicians and local community members. Below I have presented the fruitfulness as well as some of the shortcomings of HILIP.

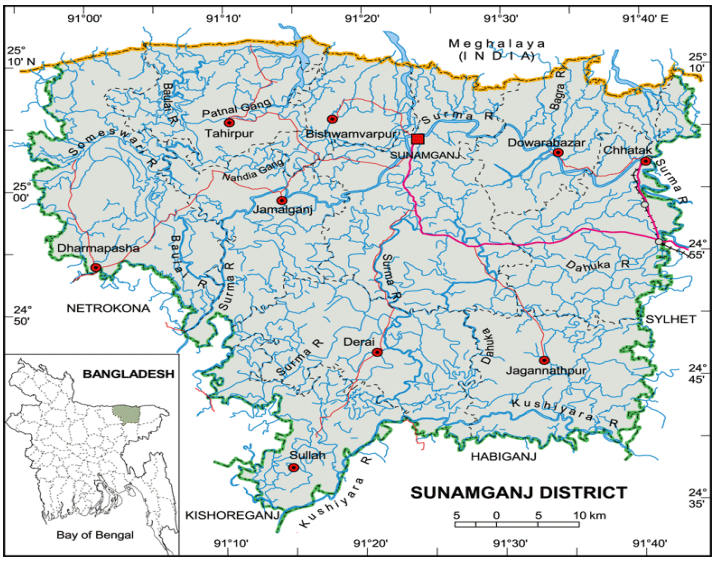

Figure 4.3: Location of HILIP project

Source: https://bdmaps.blogspot.com/2011/09/sunamganj-district.html

Fostering Common Interest Groups with Farmers

I started the fieldwork by visiting households and farmlands of a number project beneficiaries in Sunamganj Sadar Upazila who received various livelihood support from HILIP project. These beneficiaries reside in different villages that are located within 15-20 kilometres of Sunamganj Town. Shuvo, the livelihood coordinator of LGED who works in the HILIP project, took me to Belayat's house. A farmer in his late 40s, Belayet took us to his 52 decimals of fertile farmland and said:

> By the grace of god, 2018 has been a very good year for us as there has not been any significant flood. Last week I harvested huge amount of bottle gourds from my field. In addition to the bottle gourd, I also had good production of *boro* paddy. I got good price for paddy this year. I sold paddy for 1600-1700 *taka* per *maund*, in total I got 47,000 *taka* this year from paddy alone.

Some farmers of this Upazila and a couple of neighbouring Upazilas, have a wider window to grow crops compared to areas in the deep *haor* that remain submerged for six months. Farmers of many locations of Sunamganj District have involved themselves in crop diversification, homestead gardening and other activities to adapt their livelihoods with the changing climate (Anik & Khan, 2012). Farmers such as Belayat who were usually content with one main crop per year, the *boro* paddy, have been hugely benefitted through HILIP's

measures of crop diversification and teaching of modern farming technologies. Belayet talked about his farming practices before he became a beneficiary of the project:

> People who have land here, did not do much with it. Honestly, we did not know how to make the best use of the land. We farmers were solely dependent on paddy and people did not utilise the elevated land here. But now HILIP has taught us to cultivate vegetables, fruits and other crops on elevated land in this area.

The livelihood protection component of HILIP sought to organise these farmers based on common interests. Before the start of a new financial year, LGED staff members visit villages and organise participatory rural appraisal (PRA) sessions with villagers, influential community members, community elders, elected local politicians and religious leaders. Around 200 households are invited to a typical PRA session and organisers conduct small and large group discussions. They employ numerous PRA techniques (i.e. social mapping, wellbeing analysis, wealth ranking and resource mapping) to collect information and promote participation of the rural community. LGED staff members and local community leaders identify poor families that require project support. Families that have land ownership of less than 2.5 acres and who have some farming background are selected for agricultural support. Those that have little land ownership are provided with livestock and non-farm trade related support. Belayat had the requisite land ownership and he was included in the common interest group (CIG) for producing bottle gourd. Each CIG is formed with 25 farmers having similar farming interests. Shuvo, the livelihood coordinator of LGED, explained about the CIGs:

> A CIG cannot be formed with 25 farmers where 10 farmers are producing tomatoes and 15 members are producing cauliflower- each famer has to produce the same thing in a CIG.

The idea behind forming CIGs is to promote grass-roots mobilisation in rural areas to create a space for discussion and cooperation among neighbouring farmers who have common goals. CIGs have spurred leadership qualities among some member farmers, thus generating short-term as well as long-term benefits that might continue to pay dividend long after HILIP is phased out. After forming a CIG, the project arranges training and technology transfer for the farmers. LGED and IFAD have signed a Memorandum of Understanding with various specialised government departments such as the Department of Agricultural Extension

(DAE), Department of Livestock Services (DLS), Department of Fisheries (DoF) and other relevant departments to avail training, technology catered to climate change and consultation services for the CIG members as needed. Skilled and experienced trainers of DAE provide training to CIG members who are involved with agriculture. After training, the CIG members are enrolled in a pilot where they cultivate the selected crop or vegetable employing the training, learning and technology. Shuvo, the livelihood coordinator of LGED, clarified this step for me:

> Say, Hilip has formed a CIG for bitter gourd. The CIG group will receive training and technology from DEA experts. Then we arrange a pilot with the farmers to see whether cultivating bitter gourd is profitable or feasible for that area or for that CIG. After harvest, we invite local community people to communicate the outcome of the experiment, which could be either positive or negative. Instead of using a conventional seed variety, we would make the CIG use a hybrid variety. We do this because hybrid seeds increase the production of bitter gourd by 30 kg per decimal of land. Farmers would get 20 kg yield per decimal by using conventional variety compared to 50 kg yield using the hybrid. If the experiment is successful as the example, we disseminate the findings in the local community and encourage them to apply. This application of new method results in higher production, which increases income and reduces poverty.

Bangladeshi farmers tend to improve agricultural practices and exhibit more interest in embracing innovative farming, when taken under the umbrella of a well-suited development project and provided with support from experts (M. Kamruzzaman & Takeya, 2008). In addition to promoting the usage of high yielding seeds, HILIP worked with beneficiary farmers on applying fertiliser. I was in conversation with Rofik who is a CIG member for growing bitter gourd. Prior to HILIP enrolment in 2016, Rofik used to apply an excessive amount of fertiliser in his field, and ended up with wasting fertiliser and losing money. Applying too much fertilisers cause serious damage to plants and vegetables that are in turn harmful to consumers. Rofik was quite candid about his former agricultural practices:

I would apply 40 kg where 18-20 kg of TSP[16] would be enough. You cannot apply more than 15 kg of urea fertiliser per *bigha*[17] of land for vegetables. I often ended up using 20 kg of fertiliser where I needed to apply only 10 kg in four instalments. Only good irrigation can save your crop when you apply this much fertiliser. The plants would become weak and leaves would turn brown, making them more vulnerable to diseases and attacks from pests and insects. Another mistake I made that I used to spray pesticides, which did not result in much benefit with regards to cost. HILIP taught us to use pheromone traps that are non-chemical. These traps draw and kill pests and insects, and we have to spend less money on pesticides. I also get adequate support from the DAE office when my vegetables are attacked by pests. DAE officers advise me on how to defend against such attacks. All these support enabled me to have a decent harvest of bitter gourd this year. I was able to make sound profit since I sold my produce during the month of Ramadan when the vegetables have high demand in the market.

Image 4.8: A beneficiary farmer with his produce. Source: IFAD & LGED

Activities of such CIGs have been instrumental in developing leadership qualities among some farmers. I met Kamrul, an exceptional farmer whose life history can be inspiring to many. Born in a farming family, Kamrul went to Saudi Arabia to look for work in his early 20s. He lived in Saudi Arabia from 2002 to 2006 and worked in a farm. As a migrant worker, he often had to carry bags on his shoulder that weighed between 40-50 kg and had to work 60-70 hours per week. Kamrul returned home abruptly as his father passed away in 2006.

[16] Triple Super Phosphate (TSP) fertiliser, which is widely used in Bangladesh
[17] 1 *Bigha* (বিঘা) Land = .33 acre or 33 decimal of land (equivalent)

Being the eldest son, he had to take care of his family. He reminisced some of the important events and morals of his life:

> My father never made me do hard labour work and he tried to give us as much education as possible. Father used to tell me if you work hard, you will have a respectable life, you will afford footwear and will be able to eat your meals sitting on a chair. He told me to live an honest life and I have listened to him. I am living an honest and hardworking life and taking care of my family since my father died. I thought to myself after returning from overseas, if I can work hard there, I can work hard in my own backyard. I took farming as my profession. I primarily grew *boro* paddy and later took an interest in growing vegetables. I produced potatoes, peanuts, ginger, turmeric and chilli, with the help of local DEA office. Whatever necessary to sustain my family, I grew that in small amount.

When a LGED staff member visited his village in 2014 for recruiting farmers, he was referred to the HILIP project by a DAE trainer as a smart farmer. Kamrul was placed in a CIG for snake gourd and was provided with comprehensive knowledge on producing the vegetable by DAE trainers. The pilot outcome was encouraging and Kamrul decided to cultivate snake gourd commercially. HILIP provided him adequate support with regards to making raised platforms[18], seeds and fertiliser. The first year harvest exceeded his expectation and he never looked back. Nowadays he sells about 480-600 kg of vegetables every 3-4 days during harvest period. From having no experience of producing or selling vegetables, he now uses trucks to deliver his produce to the wholesalers in Sunamganj town. He expressed in an exuberant voice:

> I cut the vegetables in the evening and leave it on the land. The following morning I put the vegetables in jute bags, load them up in a truck and deliver to the Sunamganj Bazar. This is a big bazar where you sell your products in *palla*[19]. I don't have to work much hard after that, I take the vegetable to the market and the buyers sell them to consumers in front of me. After taking a percentage, the buyers pay my money at the day end. If the buyers want to collect the vegetables from me, I give them 2 *taka* discount per kg.

[18] A platform (মাচা) that serves as a raised shelf or stage for growing fruits and vegetables
[19] 1 *palla* (পাল্লা)= 5 kg

He has also taken smart measures to protect himself from climate related threats. In 2017, he cultivated winter melon, bitter gourd and malabar spinach, which were significantly damaged by excessive rain and he could harvest very little. He explained his coping strategy to me:

> I protected myself against this bad weather by cultivating bamboo and diversifying my farming, I was helped by Hilip in this regard. Other than vegetables, I have huge production of bamboo that I sell for 300-450 *taka* per piece and I also sell bamboo seeds. As far as profit is concerned, I made good profit from snake gourd and bamboo. I did not even have to sell *boro* paddy this year, I am saving that for later in case I need money.

Image 4.9: Kamrul's pond

Kamrul is not only adapting well to climate change, he is thriving:

> I am satisfied with what I have done. I have many fruit trees. I have ponds full of fish. To tell you the truth, I do not have to buy anything from the market to sustain my family. Not even 10 *taka* worth of oil, I produce mustard oil. I grow paddy, vegetables, lentils, pulses, onions and garlic.

Construction of Vital Infrastructure

HILIP has substantial project activities in the *haor* areas of Sunamganj District. For the next phase of the fieldwork, I travelled to the scenic deep *haor* areas of Sunamganj. Tahirpur Upazila is located 35 kilometres away from Sunamganj Town and it has the Indian State of Meghalaya on the north. From Tahirpur Upazila, it took another 40 minutes speedboat ride to reach one of the most remote villages in Tanguar Haor. As the speedboat surged forward, I was under the impression that we were travelling through a river. I was accompanied by LGED's community development facilitators who implement the HILIP project in *haor*

areas. They informed me that this entire river-like area will turn into lush paddy fields in the winter season. We were travelling over plain land that was filled with water from monsoon rain and water flowing from the hills of Meghalaya. It was breathtakingly beautiful all around, human beings surrounded by water and negotiating with water for their survival. As the speedboat reached Hukumpur village, what I saw did not look anything like a typical Bangladeshi village, it looked more like an island. A huge number of villagers were awaiting for my arrival, they thought I was a high level official of LGED or IFAD. Later I found out that many of the people there were from neighbouring Ramsinghopur village that is not covered by the project. It took me a good 5-10 minutes to make them understand that I was merely a PhD student with no control on HILIP. But the presence of the villagers from both villages was a blessing in disguise, as I was able to talk with project beneficiaries and non-beneficiaries.

Maintaining a livelihood is tricky in the deep *haor*, as the farmland remains submerged from June to November (S. Ali, Kashem, & Aziz, 2018). Sometimes flash floods arrive early in April and destroy the only crop of the local farmers. Ikram, a resident of Hukumpur village, talked about life in the *haor*:

> There was serious flooding last year and the year before that. Farmers have not been able to harvest much *boro* paddy for couple of years. Often paddy fields will be flooded just before they were about to be harvested. Last year we could not harvest any paddy, we were able to harvest some in 2016. We survive in this area because of fish from the *haor* and it is our main source of livelihood. We fish for six months and cultivate *boro* for six months. This is rainy season now and we are completely dependent on fish. We get all types of fish here and there will be abundant of fish when the water recedes a little. Wholesalers come here to collect fish and they directly take it to the market from here. We were lucky this year and were able harvest *boro* paddy before the water arrived in May. Paddy cultivation depends on luck and weather. We usually have good harvest of paddy every other year, it is all in god's hand. Many people are migrating away because there are no stable livelihood available in some places in the *haor*.

Image 4.10: Hukumpur village in Tanguar Haor

The floodplains of the *haor* are not as deep as a river but the turbulent waves cause significant damage to the villages. Strong waves occurring during rainy season often cause these villages to erode and villagers end up losing homesteads and valuable assets. People try to stop erosion by putting bags full of soil, water hyacinth, bamboos and other barriers to save villages from the waves. This erosion is a yearly occurrence and villagers have to spend a lot of money on protecting their villages. An embankment was built through the HILIP project to protect Hukumpur village. Interestingly, this embankment, which the locals refer to as the guide-wall, was constructed by the villagers of Hukumpur. Jalil, the Union Parishad (UP) member who is the elected local representative, told me about the construction of the embankment:

> This guide-wall was built in 2018. LGED arranged meetings and villagers were given training in making blocks and overall construction of the guide-wall. The guide-wall was constructed by the villagers themselves. LGED formed groups containing villagers to construct it. LGED did this so that the group members get wages for construction work. All 90 families of Hukumpur got to work in the construction. We were not consulted by engineers or experts from LGED. Construction was hampered because of bad weather and it was often delayed and significant portions of the work had to be redone.

Later I raised the issue of employing villagers as labours with Afsar, who is a mid-level LGED official responsible for managing HILIP in Sunamganj District. He explained:

> The guide-wall you saw in Hukumpur village was built by Labour Contracting Societies (LCS). These LCS groups are formed by villagers who are usually

> unskilled. They are given on-the-job training for 1-2 days. Unskilled labours develop skills by working beside skilled labours for couple of months. The on-the-job training transforms them into skilled or semi-skilled labour and they often get employed by experienced contractors, thus creating an avenue for alternative livelihood. Aside from guide-walls, HILIP developed village walkways, village markets and important infrastructures in other villages. All these are done through employing the villagers.

The guide-wall in Hukumpur village had already started to pay dividend. The village was much less vulnerable to turbulent *haor* waves and the villagers expressed relief. Liakat, a resident of Hukumpur, had this to say:

> The guide-wall has stopped erosion that was a common scene before. Many families lost everything because of erosion before the construction of the guide-wall, but we are much better now. People of Hukumpur village do not have to spend money on soil, trees and bamboos to reinforce the embankment, which was a common phenomenon before. The guide-wall was built by us that provided some income. It helped because we are not allowed to catch fish for a certain period of the year. The magistrate would cease our nets and other fishing equipment if we fish that time.

Image 4.11: Author on the guide-wall accompanied by LGED staff, with haor on the left and village on the right

The villagers of Hukumpur were happy with the guide-wall but a few of them raised some issues with the construction quality. The conversation that followed between couple of Hukumpur residents and a LGED staff member was intriguing:

Mannan (resident of Hukumpur): We told them to do a certain work but they did something different. Do you think that will help? First they told us the guide-wall will be constructed by bricks, but it was constructed with RCC blocks.

Mokbul (LGED's community development facilitator): We are not to be blamed if you are not happy with construction quality. The construction has been done by the villagers, not by LGED.

Polash (another resident of Hukumpur): We know that, perhaps LGED should have supervised the work more closely. The whole guide-wall will be at risk if couple of blocks fall off. We agree this guide-wall has given us some protection but it was not built the way it was supposed to be built.

Mokbul (to Mannan): Why didn't you tell this to your neighbour who carried out the construction work? Now you are blaming us.

Mannan: I know that and I don't blame LGED. If LGED gave 10 *taka* for the work, the villager who did the work would only use 4 *taka* and keep the rest to himself.

During this point of the conversation, we were joined by some of the residents of the neighbouring Ramsinghopur village and they also had grievances:

Shamsul (resident of Ramsinghopur): There is no erosion in Hukumpur because of the guide-wall that was built by HILIP. What is our fault? Why they can't give us a guide-wall?

Author (to the accompanying LGED staff member): What do you think?

Mokbul (a bit agitated at this point): To tell you the truth, Ramsinghopur is not included in the HILIP project. I am a contractual employee of LGED, appointed only to work in HILIP. I am a field-level staff and I do not have the authority to include their village in HILIP. These sorts of decisions are taken by high-level officials of LGED.

Bimol (another resident of Ramsinghopur): We know that. We have told many government officials to build it but our urges have fallen into deaf ears.

The villagers of Ramsinghopur handed me a copy of an application for a guide-wall that they wrote to their Member of Parliament (MP). But the guide-wall had not been approved yet and the delay made them frustrated. The work had been approved from Tahirpur Upazila and Sunamganj District, but it was pending for approval from the capital.

Boro-Fallow-Fallow is the most common cropping pattern in these areas where *boro* paddy is cultivated from mid-November to April by utilising irrigation (Md. Kamruzzaman & Shaw, 2018). During the waterlogged period, people can only resort to fishing for a living but that is also sometimes restricted by the government to replenish fishery resources in the *haor*. Moreover, erosion caused by strong waves is often considered a major hazard in the *haor* regions of Sunamganj (Bahauddin & Uddin, 2012), and the cost of strengthening embankments puts the resident in deeper financial stress. The frustration of Ramsinghopur villagers highlights the importance of these vital infrastructures, such as the guide-wall in Hukumpur village, albeit not constructed impeccably.

Without any doubt, employing the villagers of Hukumpur for constructing the guide-wall gave them a source of income. The guide-wall was erected a couple of months before my fieldwork in August 2018. Some block in the guide-wall already became loose and villagers needed to reinforce them. Such guide-walls or embankments need to be sturdy so that they can withstand the strong *haor* waves and incessant flooding during monsoon. The work was done through a Labour Contracting Societies (LCS) agreement whereby a villager was given the responsibly for carrying out the work by employing other villagers from Hukumpur. This person was responsible for buying construction materials, paying the labours and overseeing the entire construction work. LGED paid that person after each section of the guide-wall was completed. Aside from the issue of seeking more profit from the work as raised by some Hukumpur villagers, it might have been the case that this key person did not have adequate expertise and capability to oversee such challenging construction work.

Inexperienced Project Partner and Indifferent Trainees

Next day I returned to Sunamganj Town for conducting more interviews with HILIP beneficiaries. The livelihood protection component of HILIP also provides training for non-farm trades to beneficiaries who come from deep *haor* villages. These non-farm trades include mobile servicing, motorcycle repairing, diesel engine servicing, refrigerator repairing, house wiring, driving, tailoring and plumbing. Shuvo, LGED's livelihood coordinator for HILIP, accompanied me to a partner NGO office in Sunamganj Town. LGED selected the

PDO Technical Training Institute through a tendering process for providing various non-farm livelihood training to HILIP beneficiaries. The training facility of the NGO was housed in an apartment building. The NGO's headquarter is located in Dhaka and it maintains a training centre in Sunamganj Town. It used one floor for providing training facilities and another floor for accommodating the trainees and trainers. During my visit, the NGO was providing mobile servicing training to 40 resident trainees of HILIP project. The training centre looked well-equipped with all necessary tools and learning equipment, and the trainees were busy in acquiring mobile phone service and repair skills. The training was provided by four resident trainers and I spoke with Ujjal who was in charge of the training centre and also the head-trainer. He explained his work in the project and his previous work experience:

> I started working here from February 2018. So it has been seven months when PDO Technical Training Institute got the work for providing training to beneficiaries of HILIP. Before working for this project, I completed a six month mobile phone servicing training from a government operated Technical Training Centre (TTC). Prior to that, I worked for various fast moving goods companies. I also live in this building.

Ujjal was very young and he did not have much experience of being a trainer. The lack of highly skilled trainers is not unique to this NGO. A report by the Asian Development Bank showed that teachers in both public and private TVET (Technical and Vocational Education and Training) institutions lack pedagogical training, practical skills and industry experience (ADB, 2015). I spoke with several trainees who were between 19-24 years old and inquired about their training, learning and the overall training environment. That batch of trainees had been in training for the past 35 days and they were given in-depth lessons about hardware and software of mobile phones. They were trained on various mobile related works and the trainers taught them everything on mobile phones thoroughly. The trainees expressed satisfaction with the training content and manual. However, all trainees seemed exhausted with the volume of training and scheduling. I spoke with Masud, a 20 years old man who had this to say:

> Training is held 7 days a week that starts at 9 am and continues till 5 pm, with the exception of Friday when the training stops at 12 pm.

This exhaustion was reinforced by Haroon, a 19 years old trainee who said:

> The training puts a lot of pressure on us. It starts from morning and runs till late afternoon. The training continues all day with only two short tea breaks and a lunch break. If we had more breaks in between then it would be good.

Image 4.12: Trainees acquiring mobile phone servicing skills

I raised this issue with Shuvo, LGED's livelihood coordinator for HILIP. He said:

> The training is for 360 hours, we squeezed it into 45 days, that is why it got little tight and students are complaining. It has been decided by people at policy level of LGED and IFAD, we are just implementing it. This is a residential training, trainees are learning from morning to late afternoon, they have their meals here, and they learn even in the evening. We try to make sure there are no gaps. In the last batch, 58 out 60 students passed in the motorcycle training exam that was administered by the Bangladesh Technical Education Board. They took theory and practical examination. After passing the exam the students are given certificates, which can be downloaded from the internet. We can know that they are skilled mechanics from the certificate, then it can be used to get jobs.

The project strongly emphasised enrolling huge numbers of trainees and training course volume. Through April 2020, the project had 7509 trainees successfully graduating from various non-farm vocational training courses in five *haor* districts. The project intends to raise this number to 9000 graduates before phasing out in 2021 (IFAD & LGED, 2020). The project seems to give less emphasis on determining actual interest of the trainees, and did not seem to check whether trainees wanted to utilise their newly acquired skills or whether they were attending just for free accommodation, food, daily allowance and travel allowances. I

interviewed five trainees on that visit and only one of them showed interest of doing something with the training. Jishan was 22 years old and owned a small computer shop in Bishwamvarpur Upazila. He was excited about the future and the only trainee not to complain about the demanding training schedule. Jishan shared his plans with me:

> I like the training a lot and this is the first time I am staying away from home. I have a small computer shop where I sold downloaded content from the internet and I used to make about 150-200 *taka* per day. I heard from someone that I could get some mobile training from here. I think I can augment my income if I include mobile servicing with my download business. Currently, my shop is closed. But after completing my training here and after learning mobile servicing, I will make the shop as 'computer and mobile servicing'. I can do it, I have already repaired three mobiles!

The majority of these trainees did not have any employment before enrolling in the training course and these trainees come from poor families. Of the 40 resident trainees enrolled in mobile servicing training, very few had any prior work experience in mobile phone service and they were not studying in colleges or universities either. It was not unrealistic for them to find such 45 days training sessions worthwhile. The trainees were provided with free accommodation, meal, daily and travel allowances. Many of these trainees were almost forced by their families to come here. Trainers seemed to be quite adamant to teach trainees as much as possible within 45 days to have them graduated.

From there I went on to take an interview of a graduate who became self-employed. Minar completed motorcycle repair training in March 2018 and opened a small repairing shop in the outskirts of Sunamganj Town. He was involved in motorcycle servicing prior to enrolling in HILIP training. Like the trainees of mobile phone servicing, he received 45 days residential training on motorcycle works from a government vocational institute in Sylhet. He enrolled with the hope that enhanced skills would help him to earn more. After graduating from the training course he felt confident enough to rent a place and open a motorcycle repair shop. He spoke highly of the training that made him a better mechanic. He could now take down a motorcycle engine and put it back on. Training had certainly increased his knowledge, efficiency and experience. His revenues increased as he was attracting more customers every day. His proceeds were about 25,000-30,000 *taka* per month from which he earned a net income of 10,000-12,000 *taka*. But he was not an expert mechanic yet and often he would

face difficult to identify what was actually wrong with a motorcycle. He thought the training was not extensive enough and did not provide any information on sourcing tools and equipment. Since graduating he was not followed up by either LGED staff members or his trainers. I inquired about his fellow trainees and whether they were working or not. Minar Replied:

> Those who receive training, some of them use it and some don't. Those who use it and plan to open a shop, they often find it difficult to find the tools necessary for business. But the problem is that after completing training many of the trainees are sitting idly at home and doing nothing. Two of my batch mates contacted few months ago and expressed interest to work. I could have taken them as apprentice but no one ever showed up.

Image 4.13: Minar in his motorcycle repair shop

HILIP's approach here seems like it places more stress on the number of trainees enrolled and on having them complete the training course. Understanding trainee motivation pre-enrolment, providing support and follow up post-completion have received less emphasis from trainers and LGED officials.

Discussion

Both PAP and HILIP projects have improved the lives of their beneficiaries, at least temporarily. In the case of the PAP project, the beneficiary farmers were able to increase earnings through growing and selling pumpkins. The project intended to boost pumpkin production on sandbars and it overwhelmingly achieved that objective during its lifespan. Nonetheless, the project would have been much more beneficial for the farmers if it provided

support for cultivating onions, peanuts, potatoes, watermelons and tomatoes, which are more profitable than pumpkins. Biplob, a veteran farmer from Kurigram District, had this to say:

> Now the project is no more but we know how to source pumpkin seeds from Rangpur and we have shallow machine to irrigate the field. Last year, I made 100 pumpkin pits with project's support. But this year I will make 50 pits from my investment. Onions and peanuts are my main crops because they always have demand in the market. To be honest I would have preferred it more if the project provided support for cultivating other crops and vegetables beside pumpkins. But by the grace of God, people from the PAP project helped us to move forward with pumpkin cultivation.

Practical Action had been working in this area for more than a decade. The PAP project indeed was able to help farmers to earn more. However, project officials made little effort to listen and learn about better crop choices from farmers. They did not ask the question and farmers did not get an opportunity to reply. The project intervened with a fixed solution and made little effort to understand the local context. Although the PAP project taught farmers to grow pumpkins in pits, the project missed an opportunity to learn something from the farmers who have been utilising these northern *chars* for 20-30 years to earn a living. PAP is considered as a successful project by Practical Action and its donor, and I am not contesting that. But inclusion of more profitable crops, in addition to pumpkins, would have made this project more fruitful for its beneficiaries. The farmers made a very clear point during the interviews that nowadays they do not wait for a development project or government support. They are observing the changes in the environment, river-system and the *char*. They know how to farm in this region and how to make a profit. I enquired about the incongruity that they did not make significant profit by cultivating pumpkins, yet they gladly took all kinds of help from this project. The farmers simply replied that PAP offered them everything for free and there was no reason for them to decline.

The HILIP project has been very effective in reducing farmers' vulnerability to climate related threats by helping them to diversify agricultural practices and produce. Experienced, motivated and likeminded farmers, organised in CIGs (common interest groups), have made the best use of the training provided by DAE experts and other farming support from the project. Beneficiary farmers were able to earn more by producing cash crops and expanding into agricultural goods that reduced their vulnerability from weather hazards. The intention

was to replicate this success with young beneficiaries who successfully completed non-farm technical and vocational trade training. But livelihood diversification through non-farm trades has been less effective for two key reasons: absence of proper trainee follow up after training completion and apparent lack of interest by some trainees to pursue employment post-training. It has been possible to train many youths in non-farm occupations through HILIP but the project does not include a formal follow up mechanism. The partner training institutes of the project, both state-run or NGO-run, and LGED do not have a formal mechanism for keeping track of graduates. Whether graduates are in wage employment or self-employment, whether they left their employment, whether they are unemployed or enrolled into a formal college or university- keeping such information makes it easier to determine training effectiveness. It is also important to determine whether trainees, the majority of whom are unemployed and very young, have any real intention to pursue work or whether the intention is to get free accommodation, meals, travel and daily allowances during the training period. These issues were less relevant with regards to farmers because they had been involved in farming for many years and they participated in the project with pre-determined goal of improving agricultural practices.

In terms of infrastructure development, undoubtedly, Hukumpur village was much less vulnerable to strong *haor* waves because of the guide-wall or embankment built by HILIP. Nonetheless, many in the village were disappointed with the construction quality of the guide-wall. In recent years, the idea of trusting government officials, local contractors or vendors and villagers with construction of vital infrastructures have come under scrutiny. After the devastating flash flood of 2017 in Sunamganj, 140 individuals including high level government officials, contractors and their associates were sued for corruption in constructing embankments in *haor* region (The Daily Star, 2017). The corruption trickled down to some influential villagers as well because they were included in various construction committees and contributed in the irregularities (Dhaka Tribune, 2019). It is widely believe that these irregularities played a huge role in making flash flood situation worse in 2017. Given LGED's vast engineering and technological capacity, it could have practiced more control and monitoring on the construction work while taking labour from the village. It could also consider hiring highly reputed construction companies or NGOs who have the required expertise to build such crucial infrastructures in the future. LGED could add a condition that they must hire labours from the village and only bring expert labourers from outside if enough are not available locally. It might seem tricky to maintain a balance between

construction quality and the necessity of providing income for villagers through direct labour. But, as I discuss in the following chapters, there are instances of development projects[20] where the balance has been well-maintained between the two. The following three chapters exhibit three development projects that have been able to identify beneficiary needs with greater efficacy and provided appropriate interventions and teachings for them.

[20] Chapter Six

Chapter 5: Reclaim

Description of the Project

Christian Aid was established by British and Irish churches with a view to assist refugees after the Second World War. Since its establishment, the organisation has been providing humanitarian aid and development assistance to marginalised communities worldwide. The organisation has more than seventy years of experience of working with many development partners worldwide to address the main causes of poverty (Christian Aid, 2019). Christian Aid strives to strengthen vulnerable communities all over the world to protect them against future uncertainties. In 1972, Christian Aid started its work in Bangladesh to help the newly born country to recover from the aftermath of the 1971 liberation war that claimed the lives of nearly three million people and left the country in ruins. The organisation currently works with 17 development partners in 20 most vulnerable districts in the southern coastal areas, north-west regions, central flood affected and *haor* areas of Bangladesh. Christian Aid's projects endeavour to ensure just and equitable access to resources and support resilient livelihoods for marginalised people of Bangladesh. Keeping climate change in mind, Christian Aid has implemented numerous projects on developing resilient livelihoods for vulnerable communities (Christian Aid, 2020). This study strives to address the following research question: what are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh? This chapter looks at Christian Aid's project titled 'Reduce climate vulnerabilities through advance agricultural technology in the south west coastal region of Bangladesh' or referred to as the Reclaim project, which aimed to diversify income generation and promote climate suited livelihood options in Shyamnagar Upazila of Satkhira District.

Cyclone Aila devastated the south-western coastal region of Bangladesh on 25 May 2009 and claimed 190 lives. The resulting flood from Aila destroyed houses, homesteads, schools and colleges, roads and embankments (MR Khatun, Gossami, Akter, Paul, & Barman, 2017). Prior to Aila, people of this region relied on agriculture, fishing, shrimp and salt farming, and tourism for a living. The cyclone adversely effected 3.9 million people by ruining 350,000 acres of croplands and causing significant damages to infrastructure (IFRC, 2010). Alok, a resident of Atulia Union Parishad (UP) and a beneficiary of the Reclaim project, described the aftermaths of Aila:

> The whole area was submerged by black sea water after Aila and it devastated the area. It was not as salty before Aila. We did not have to put in so much effort to grow a tree 10-15 years ago because it would have grown itself. There were severe scarcity of fresh and drinking water after Aila. Higher levels of salinity in the land has made it challenging to grow crops and pursue livelihood that came naturally to us.

The region is also very close to the Bay of Bengal (figure 5.1), which puts it in the forefront of the challenges imposed by climate change. Shamima, an elected member of the Munshigonj UP, explained to me the impact of climate change in her life:

> When we were kids, it was as if the weather listened to us. We expected rain and storms during rainy season and we could plan our activities with the weather. But climate change has forced us to take different routes. You can see we are changing our ways of doing things to match with the changes created by god.

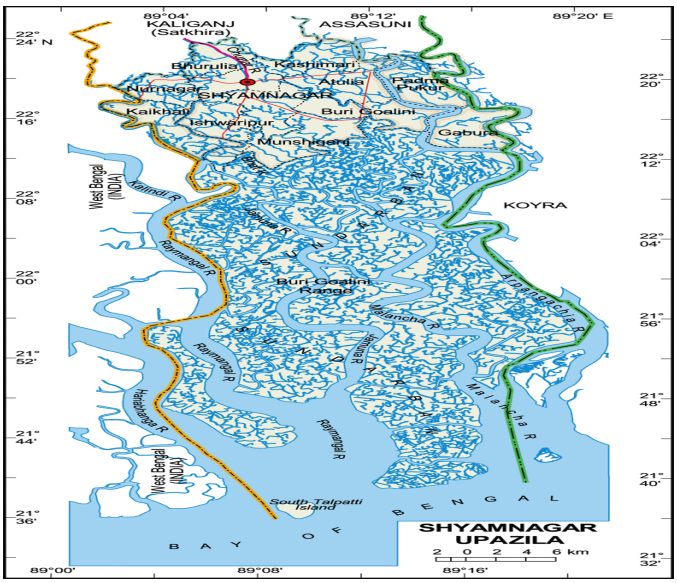

Figure 5.1: Location of Reclaim project

Source: https://shyamnagar.wordpress.com/

The Reclaim project was implemented from 2011 to 2019 to assist the people of Munshigonj, Burigoaliny and Atulia (UPs) of Shyamnagar Upazila in adapting livelihoods that could cope with the aftermath of Aila and the onslaught of climate change. Christian Aid coordinated and managed the project, while the project was implemented in the field by Shushilan that has a strong foothold in Shyamnagar Upazila. The project's chief objectives were to promote

adaptation to climate change by reducing vulnerabilities to weather hazards and enhancing livelihood resilience for coastal communities. Reclaim consisted of three key components, in which project beneficiaries took part in composite farming, pigeon rearing and shrimp farming in *gher*. During April 2017 to March 2018, the project assisted thirty five farmers in composite farming. These farmers have participated in training and learning sessions and were provided assistance up to worth 30,000 taka each. This money was paid in the form of hiring labours to plough the land, providing quality seeds for vegetables and crops, buying fish fodder and fingerlings, and buying agricultural equipment and tools. In the same period, the project assisted fifteen traditional shrimp farmers to turn their farms into organic shrimp farms. Farmers were provided assistance in terms of testing soil and water of shrimp *gher*, applying natural fertilisers, using organic shrimp food and trees to plant around *gher* so that shrimp have a natural food source. In addition, ten extremely poor households received assistance for pigeon rearing. These beneficiaries were provided training on pigeon rearing, making pigeon houses/lofts, bird food and vaccination from the project (Shushilan, 2018). All three components were designed to make existing livelihoods more resilient to climate change, whilst exploring new avenues for climate-suited livelihoods such as pigeon rearing.

Shushilan was established as a Non-Governmental Organisation (NGO) in 1991 by a number of young social workers of Benadona and Pania village located in Satkhira District. Shushilan is a Bangla word that signifies endeavours for a better future (Shushilan, 2019). Starting out as a small NGO, it has garnered a solid reputation in working for disadvantaged communities of south-western coastal Bangladesh. Currently, Shushilan is implementing more than 40 development projects across the country with diverse partners that include government agencies, local, national and international organisations in areas such as health and nutrition, agriculture, education, institutional capacity building, environment and climate change (Shushilan, 2017). Christian Aid entrusted Shushilan to implement the Reclaim project because Shushilan had considerable experience in working with climate change issues that are pertinent to Shyamnagar Upazila. Officials, trainers and veterinary doctors of relevant government agencies (i.e. Department of Agricultural Extension, Department of Livestock Services and Department of Fisheries) often supported Shushilan by providing training, medical and agricultural services to beneficiaries of Reclaim. I conducted my fieldwork in June 2018 and visited all three UPs where Reclaim was implemented. I interviewed composite farmers, pigeon and shrimp farmers, staff members of Shushilan and Christian Aid, trainers from the Department of Agricultural Extension (DAE), members of local

community and elected local politicians. Below I will describe the factors that have enabled Reclaim beneficiaries to make their livelihood more resilient and thus earning more.

Utilisation of Scarce Resources

Munem, a project officer of Shushilan, took me to the village of Kultuli which is located in Munshigonj UP of Shyamnagar Upazila. The area had less greenery than other rural areas of Bangladesh that I had previously seen. We arrived at Aarti's home that was a combination of a house and a farm, which they refer to as composite farming or integrated farming. The small house was surrounded by a small pond, a pit for making organic fertilisers and vegetable patches containing eggplant, red leafy, basil and spinach. Aarti was well-acquainted with Munem and greeted us with a smile. Munem introduced us and I gave Aarti a brief idea about my research. Then we preceded to have a closer look at her farm while having a conversation. Her husband works as a daily labourer and they do not own any land except this. The family heavily relies on this farm for food and as an income source. She became a beneficiary of the Reclaim project and a member of the Shusomoy Committee from 2015. She used to farm in an unorganised manner before being a beneficiary of the project.

Image 5.1: Vegetables patches in Aarti's farm

After receiving training and assistance from the Reclaim project, she started to utilise all her previously unused land and started to cultivate paddy, vegetables and fish simultaneously. Aarti took a number of measures to ensure maximum utilisation of her 38 decimals of land. Starting from assembling raised platforms and making seedlings, to ensuring effective usage of sun light (i.e. not growing paddy where the land gets shadow from trees and other permanent structures), Aarti employed all that she learned from Reclaim. Since water is in

short supply in the area, Shushilan instructed Aarti to make a small pond in her land to store rainwater. Aarti told me in an exuberant voice:

> Shushilan advised me to use soil from the excavated pond to raise some land for making vegetable patches. I had a very good harvest of vegetables last winter. Look how healthy the vegetable plants look. I have adequate water supply and only use natural fertilisers that I make myself.

Aarti also told me that she only uses organic fertilisers instead of chemical ones that cause various diseases and are harmful for the environment. She drops cow manure, vegetable and fruit leftovers in a pit to decompose them and apply that fertiliser in the soil to make it more fertile. She uses pesticides in a limited and careful manner because she is aware of their harmfulness.

Image 5.2: Aarti standing next to her pond

Thirty five families have received support for composite agriculture from the project. Munem explained to me how they select these families:

> The first thing we look at whether a farmer has adequate amount of land because you cannot develop a composite farm if you do not have land. A farmer must have between one *bigha* to five *bigha* of land. Farmers who have more than 5 *bigha* of land were not considered for any component of the Reclaim project. Then we found out whether a farmer has interest and capability to implement the necessary work for a composite farm. Then we signed an agreement with interested and eligible farmers.

However, often Munem and his colleagues had to face complications in selecting beneficiary families because the number of eligible and interested families always exceeded the number that the project can accommodate. So, Shushilan would organise meetings with local politicians (i.e. UP chairman and members), local elites and community members and would provide a list of eligible families to meeting attendees. They would decide which families needed the assistance most and Shushilan would finalise selected beneficiaries with their consent. This process of selecting beneficiaries with community consultation was followed to ensure transparency on part of Shushilan. It also facilitated inclusion of interested farmers such as Aarti who no longer needs to buy rice, fish and vegetables from outside and she also sells the leftovers after consumption. She has become very knowledgeable in cultivating vegetables and paddy together in her small piece of land. She showed me some land that she did not use before but now she ensures 100% utilisation of her land. She spoke highly of Shushilan's mixed cultivation training and she favours frequent training because they brush up her farming skills. Though she complained about the frequency of training sessions that were becoming rare as the project was slowly winding down.

Image 5.3: Pit made by Aarti for making natural fertiliser

Munem then took me to Kanta's house who has a similar composite farm to Aarti's. The majority of the participants of composite farming were women since they typically stay at home to take care of children and the elderly, while men look for work outside. Kanta has been with Reclaim since 2011 and she received agricultural training and various farming equipment and inputs (i.e. bamboo, net, rope, seedlings and fish fingerlings). Her husband is disabled and the composite farm is crucial for the wellbeing of her family. Their only daughter is married and Kanta works alone in the composite farm.

Image 5.4: Kanta standing next to her vegetable patches

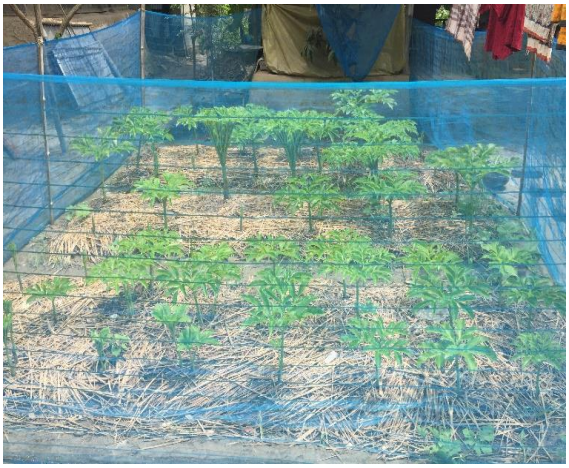

Image 5.5: Kanta's vegetable patch surrounded by net

Her farm was quite similar Aarti's but a bit larger. Kanta had a much larger pond and she focused more on growing vegetables and fish. She cultivates vegetables such as okra, pumpkin, basil, ridge gourd, bitter gourd, turnip, eggplant and arum-lobe. Water is crucial for growing vegetables and Kanta can grow all these vegetables all around the year because she gets water from the pond. As a result, she has been able to ensure full usage of her land and pond. She uses her pond to grow multitude of fishes such as rohu/rui, mrigal carp, catla, silver carp, grass carp and puntias. Trainers from Shushilan and DAE have taught her to use the shallow pond for cultivating paddy and making hanging vegetable platform over it. I asked her about the training she received from the DAE trainers, 'do you understand the training and learning from the DAE trainers and what do you do when you face difficulties to understand a particular thing?' She replied:

> I try to understand. The trainers don't mind if we are slow and ask questions. I call Shushilan staff members when I face a problem. They contact DAE trainers and communicate necessary actions.

Kanta constructed a platform for growing vegetable over the pond with bamboo, rope, straw and net. She placed some net under the hanging platforms as a barrier to stop vegetables from dropping in the pond underneath. Kanta also surrounded the vegetable patches with nets to protect vegetables from cows and goats. She told me that in future she would focus more on growing cucumber and zucchini, since these vegetables fetch good price in the market. I could easily see that she has transformed herself into an expert farmer and turned her home into a farm. She told me with a beaming smile:

I don’t wait for inputs and advise from Shushilan anymore because now I know which crops to cultivate and how to cultivate.

Image 5.6: Kanta’s pond with raised platforms for cultivating vegetables

There are many reasons and rationales for the growing popularity of composite or integrated farming among Bangladeshi farmers. Agbonlahor, Aromolaran, and Aiboni (2003) defined this method of farming as a mixed farming system combining crop and livestock in supplementary or complementary way. While Radhamani, Balasubramanian, Ramamoothy, and Geetalakshmi (2003) described it as a farming system that intends to minimise risks, increase production and profit while ensuring full optimisation of organic wastes and crop residues. Aside of the aftermaths of climate change and Cyclone Aila, the average holding of Bangladeshi farms has been in decline while the number of marginal farms has gradually increased from 4.48% in 1996 to 11.2% in 2005. Moreover, many Bangladeshi farmers are still engaged in single crop production where they need to ensure reliable and continuous food supply for meeting basic needs and farm expenditures. Such single crop production year after year, mostly rice-based monocropping, leads to land degradation, which ultimately ends up endangering food security for many Bangladeshi households. Integrated or composite farming techniques offer solutions for stopping land degradation and regaining land productivity by producing crops, vegetables, trees, livestock and fish (Al Mamun, Nusrat, & Debi, 2011). This farming technique is even more beneficial for the inhabitants of Shyamnagar Upazila since considerable portion of this area has not yet recovered from the devastation of Aila. Composite farming is helping to keep salinity level low in the land and enabling beneficiaries to produce crops, vegetables and fish together in the same piece of

land. Fahmida, a fieldworker for Shushilan, believes composite farming have diversified and increased production and reduced farmers' vulnerability to climate change. She told me:

> Households would only get one crop from their land before, but now they are getting multiple crops from two harvests per year, one during summer and one during rainy season. They now get two varieties of rice and at least three vegetables per year. We tell the composite farmers, look if you lose paddy, you have vegetable, and if you lose vegetable, you have fish. You get more safety this way.

Girish, the project leader from Christian Aid, preferred composites more than other components of Reclaim:

> Composite agriculture is increasing a farmer's income by 4000-4500 taka per month. We can say that because she/he is using the same amount of land as before but composite is helping a farmer to increase earnings to about 50,000 taka per year.

Farmers Accepting New Practices

Both Fahmida and Munem agreed that farmers of Shyamnagar Upazila were used to traditional ways of farming before cyclone Aila. But traditional farming was rendered ineffective to a considerable extent after Aila. Fuad, a composite farmer of the project, told me about the ravages of Aila:

> My house was completely submerged by a huge tidal wave. The nearby embankment was breached inundating the entire area by salt water. People used to grow paddy in the adjacent areas that were destroyed. Aila ruined all the crops and land in a single day.

He continued as tears rolled down his cheeks:

> There were poverty in our area before Aila but there was also solvency. People were not this helpless. In terms of crops and livelihoods, this area was good. Aila completely destroyed people's homes, livelihood and farming activities. Many have left this area.

Image 5.7: Fuad's pond that he utilises in various ways

Reclaim project was designed to help local farmers get back on their feet while acknowledging environmental changes imposed by Aila and climate change. The project started by working with officers of DAE for assisting farmers to adapt with soil salinity and scarcity of freshwater. Selim, DAE's deputy assistant agricultural officer responsible for Munshigonj Union Parishad, provided these details about activities under Reclaim:

> Different types of trainings have been given to beneficiaries of Reclaim, both by me and by my supervisor the Upazila Agriculture Officer. The learning focuses on paddy, fish and vegetable farming. This has been good for the local area under Munshiganj UP and Buri Goalini UP. If every farmer is provided this training and if we can ensure implementation, then a farmer can produce all year around.

He also enlightened me about the module used by Reclaim:

> Since freshwater is a scarce resource here, the module concentrates on making full use of freshwater for farming. There would be a small pond surrounded by dykes from all sides to prevent seepage. Rainwater is stored in the pond and water is transported to vegetable patches, crops or other locations when needed by using canals.

Then he told me about the efficiency of growing vegetables in patches or vegetable-beds:

> Compared to traditional vegetable cultivation, farmers need to use half the amount of water for growing vegetables in vegetable-beds. Farmers are able to produce all varieties of vegetables while the yield is 30% more than traditional method. Moreover, vegetable plants are less vulnerable to pest attacks and it is

easier to nurture the plants when grown in vegetable-beds. That is why farmers of Reclaim project are widely using vegetable-beds.

Fuad showed me his vegetable-beds in which he planted eggplants. These beds are built in a way that rainwater is not stuck in the beds. The rainwater is carried out to the pond by canals that are adjacent to the vegetable-beds. Similar to Kanta, Fuad also built hanging vegetable platforms over the pond and he uses the canals for fish cultivation.

Image 5.8: Fuad and his son in their composite farm

Selim, who accompanied me to Fuad's house, was quite happy with the farmers in terms of training participation, learning and implementation. Selim said:

> The beneficiaries of Reclaim are very motivated. When I train them about composite farming, often non-beneficiaries would approach me and express interest to participate. As far as implementation is concerned, I would say beneficiaries execute about 80% of the teachings. Even if some beneficiaries do not get a decent harvest, they keep on trying and start again at the beginning of the next rainy season. The beneficiaries are well aware that soil salinity level will rise if it is not used continuously. To keep soil salinity level low, our farmers provide irrigation with freshwater, crop persistently and apply natural fertiliser.

But there were many roadblocks towards the beginning of Reclaim as elderly farmers expressed doubts and raised questions about new techniques. Fuad recalled how it was like at the beginning:

> People would laugh at us and would tell us, don't do this, you wouldn't get good crop. It took considerable time for beneficiaries to have faith in new

techniques. It helped when doubters saw the result. Many non-beneficiaries of this area have taken up new farming practices by observing us. Now we feel good that people who mocked us for embracing new practices, are embracing those practices for themselves.

Selim clarified this issue of doubts and questions:

As we are closely involved with the farmers here, we can see that education levels of most farmers are very low. When we ask them to note something important, the farmers will have difficulties doing that. Illiteracy is a huge barrier here. Although there are farmers who are well educated, some are graduates and post-graduates. They easily capture training lessons such as varying dosages of applying pesticides or which pesticides will work and so on. In my experience, young farmers are quick to learn and acquire new information easily. However, senior farmers often show resistance in accepting new knowledge and technologies, and this is quite common.

Image 5.9: Cultivation of arum-lobe by Fuad

Shushilan addressed this issue by organising training sessions in groups consisting of 5-10 beneficiary farmers from the same area. It is impractical to expect that trainees would retain all information given in training sessions because some farmers will have better understanding than others will. Farmers belonging to these groups often conducted meetings among themselves and discussed the issues addressed in training sessions. As a result, they ended up helping each other while implementing the new practices and techniques advised by the project. These farmers have acquired new ways of farming that have provided them with livelihood in this unfavourable environment. Fuad concluded:

> Our elders and ancestors were farmers and we learned farming from them. But farming is evolving now. We are cultivating the only types of paddy, fish and vegetables that are suitable with the weather and salinisation, and which will provide a good yield. We are heavily investing in vegetables and spices such as arum-lobe, turnip, ginger, turmeric and others that can survive being submerged in case we have floods or cyclone storm surge.

Munem then took me to Sattar's house who is another composite farmer of Reclaim. Sattar had been a beneficiary of Reclaim from 2014 and he spoke fondly about his experience with the project. Shushilan staff members would visit his farm during turnip seed plantation and would supervise whether he was doing it according to new practices. He felt bad towards the beginning as he thought he was wasting precious land by maintaining huge gaps between seeds. He thought he could easily plant another line of turnip seeds in the gaps. After getting a very good yield in the first year, Sattar realised that plants require adequate space to grow up in a healthy manner and plants would not be healthy if seeds are planted in close proximity. Sattar said to me:

> I did it in the first year against my heart. I told to myself that I have been following traditional farming techniques used by my father and grandfather. How can I discard them? The elders in the area were also discouraging me to take up new techniques and said I would ruin my land and crop. But I could not summon the courage to tell Shushilan staff members to reduce gaps between seeds. Shushilan staff members measured the gaps between seeds according to their standards. They kept close eye on me and made sure I was maintaining *du hath*[21] gap. Since then I have always followed this practice and the outcome has been good.

In addition, composite farmers of Reclaim received other valuable advice from DAE trainers. Selim and his colleagues at DAE taught farmers about proper depth at which seeds should be sown. Previously farmers would sow seeds just by randomly digging up holes in the soil and they did not know at which directions seeds should point. I noticed the freshness and attractiveness of the vegetables cultivated by Sattar and asked him how he managed to grow them. Sattar replied to my question:

[21] *Du hath* (দু হাত): An informal length measurement used in Bangladesh, which is about 3 feet long

> Quality of my vegetables are quite good because I heavily use vermicompost[22] fertiliser. Before sowing vegetable seeds, I generously apply vermicompost fertiliser to the soil while ploughing. I learned about making this fertiliser from Reclaim training. You need cow manure to make vermicompost but I don't have cows. I have to collect cow manure to make the fertilisers that requires some work. Nevertheless, it is worth it as this fertiliser is much better than the chemical ones found in the market. The vegetables taste better, have bright colours and you will buy them even if they are more expensive.

Prior to the Reclaim module, farmers faced difficulties in cultivation during dry season because of water shortage and were reduced to farming only during rainy season. Applying freshwater to the soil helps to keep salinity level low but soil salinity levels would go up in the dry season since farmers were unable to apply adequate amounts of freshwater. Having a pond, a freshwater source, in the house has given beneficiary farmers a wider window for growing crops and vegetables. Beneficiaries can also use freshwater other than farming (i.e. for drinking, cooking, cleaning), which is an additional benefit.

It is well researched that adaptation can potentially reduce adverse effects of climate change by protecting livelihoods of poor farmers and reinforcing potential advantages it may bring (Gandure, Walker, & Botha, 2013; Wheeler, Zuo, & Bjornlund, 2013). Alauddin and Sarker (2014) identified that farmers of drought-prone and groundwater-depleted areas of Bangladesh are using drought tolerant paddy, groundwater and crop-switching as their preferred farm-level adaptation measures to reduce negative effects of climate change. Similar to those farmers, Reclaim farmers with the availability of freshwater from ponds combined with the usage of saline tolerant paddy varieties, have been able to increase production of paddy. Sattar explained to me:

> We used to get 8-10 *maund* of paddy per *bigha* before. Now we get 16-18 *maund*, some even get 22 *maund* per *bigha*. We used traditional varieties of paddy such as Paijam, Boram, Patnai and Chiniganai. These varieties were very sweet and fragrant. We cannot grow these varieties here anymore due to excess salinity, nor do we see them in the market. Farmers will incur losses if

[22] An organic fertiliser made from organic wastes and a variety of worms. This fertiliser has gained popularity among farmers of Bangladesh in recent times

> they plant those varieties. We largely cultivate *Amon* and *Boro*[23] varieties that are recommended by DAE trainers and are suitable for this area.

Despite the availability of support and technical interventions, farmers of coastal Bangladesh are often faced with constraints in coping with climate change and environmental degradation caused by Aila. Mohammed Nasir Uddin, Bokelmann, and Entsminger (2014) examined adaptation practices of farmers of three coastal villages in Satkhira District and identified lack of water, scarcity of cultivable land and unpredictable weather as main constraints to adaptation. Reclaim beneficiaries also face the same constraints and then some in the form of salinisation. But they have not thrown in the towel and are meeting the challenges imposed by climate change head on. They learnt about agricultural practices that they did not know before. Since paddy is one of their staple crops, they emphasized more on that and striving to boost production. Reclaim has given the farmers invaluable ideas and knowledge on paddy cultivation. Sattar told me in a resolute tone:

> It would be even better if we get more learning. Paddy is our main crop and it will be more profitable for us if we are able to produce it more efficiently. I know no one can save this crop from drought, flood, and storm surge, but that does not mean we cannot use the latest agricultural practices to maximize paddy production. The knowledge and information on farming, and the practices that we learned through the trainings- these are the most important things Reclaim has done for us.

Developing Alternative Livelihoods to Agriculture

All beneficiaries of composite farming own a decent amount of land. However, Shyamnagar Upazila comprises of many people who have no additional land except their dwelling house. Aila considerably worsened the situation by rendering huge swathes of land unusable. As a result, the pigeon rearing component of Reclaim targeted people who are extremely poor and have very little land ownership. Munem explained to me how they selected beneficiaries for pigeon rearing:

> When we first arrived in the village we arranged a meeting with local UP chairman and members and other influential people. They decided which families are the poorest and require assistance.

[23] Two most commonly cultivated varieties of paddy in Bangladesh

Image 5.10: Tahira next to her pigeons

In consultation with Christian Aid, DAE and the Department of Livestock Services (DLS), Shushilan opted for pigeon rearing considering the lack of pastures required for animal grazing post-Aila. Munem explained:

> Pigeon farming is doing well here because pigeons can withstand salinity better than cows or goats. Pigeons eat less from outside and you can keep them in cages. And people of this area were used to rear pigeon from before.

Fahmida, Shushilan's fieldworker, took me to Tahira's house who is solely dependent on farming pigeons as a livelihood. Tahira has been farming pigeons for 5 years and she received various support from the project. She told me about her journey while showing me cages full of pigeons:

> We received many assistance from Reclaim for pigeon farming. They bought us around fifty pigeons. My pigeons lay eggs and the baby pigeons eat well if we feed them properly. We have to buy poultry feed and mash for the birds. They grow very fast and become healthy. When I got some money by selling pigeons, I bought couple of goats and now I have five goats. I use the goat manure to make fertilisers.

She pointed me to a sack full of fertiliser that she used for growing vegetable. Tahira built a small vegetable patch in her yard and I could see green chillies and arum-lobe there. She kept talking in a gleeful manner:

> We contact local animal hospital and pharmacy to vaccinate new-borns. Pigeons do not attract diseases if we vaccinate them for first six months after

birth. My son takes care of most things about pigeons, in addition to his studies.

Image 5.11: Sujon takes care of the pigeons

There I met Sujon, a confident and humble young man in his early 20's. The mother and son emanated a rare affection and care to the pigeons, goats, plants and to everything that were in their modest five decimals of land. From bathing the goats with soap, making sure animals get fresh air during hot summer nights, taking measures to protect them from rain, to surrounding cages with nets to protect the pigeons from crows and mosquitoes, the duo treated the animals as if they were family members. I could see that they fostered the goats with immense care. They had bright skin and did not have any foul odour. They sell the goats during Eid ul-Adha for 15,000 to 20,000 *taka* a pair. Sujon told me how it all started:

> We had four pigeons, Shushilan came to us and encouraged us to expand. They bought fifty pigeons for us, built cages, and provided us with pigeon feed at the beginning. We increased the number of pigeons from there and we earn around 7000-8000 *taka* per month now. We now have around 95 full-grown pigeons. It is possible to increase pigeon numbers very quickly, more than 100 in a year. But we sell them when they reach a certain age because it is not possible to feed large number of birds. Our pigeon cages are not so big and each month we get 40-50 new-borns.

Tahira interrupted her son:

> We got training from livestock office[24] and consulted with veterinary doctors which were arranged by the project. We face some problems during winter as the pigeons become vulnerable to diseases but timely vaccination reduces that

[24] In the context of this statement, it refers to the Department of Livestock Services (DLS)

> risk. We call veterinary doctors when we see an issue with the pigeons. They come to our house to examine ailing birds and prescribe medication.

Tahira gets a good price for the pigeon in the local market. The price for a pair of baby pigeon varies around 150 to 1,000 *taka* depending on breed. While the price for a pair of matured pigeons varies around 500 to 3,000 depending on breed. In addition to 95 full-grown pigeons, they had 25 baby pigeons and 17 unhatched pigeon eggs in June 2018. Fahmida then took me to Roksana's house who was another beneficiary of pigeon rearing. Like Tahira, she was doing really well and had regular earning. However, she had to experience a serious setback about a year ago. She and her husband went out to attend a relative's wedding. There was no one in the house, 7-8 thieves broke in and stole all her pigeons. This was a tremendous blow to her because she was earning around 10,000 *taka* each month. I asked her how did she managed to recover from this huge loss. Roksana replied:

> It is true that Reclaim only supported me in terms of pigeon rearing. But things will not improve if you only rely on one livelihood. I was quite successful when all my pigeons got stolen. I was able to bounce back because I was smart enough to buy goats with my income from the pigeons instead of wasting that money. At that time, I had four goats and the thieves were unable to steal them. I bought a new batch of pigeons by selling one of the goats. I recovered because I had other income sources and had other assets in addition to pigeons. Yes, I suffered huge losses from the theft and have not yet recovered fully, but I had a safety net in the form of goats.

Fahmida concurred with Roksana:

> I have been watching her endeavours for the past three years. We did not give her any additional support after the theft. She was able to bounce back using her own resources which she accumulated by her initiative. She has also bought ducks and now she earns about 8,000 to 10,000 *taka* per month. Each month she saves money after meeting all her expenditures.

Roksana now had 72 pigeons, she needed a stronger cage that would be difficult for the thieves to break in and she became more alert than before. She reiterated her intentions to make her pigeon farm bigger. I could easily see her passion and love for her pigeon farm. She expanded her farm into cultivating vegetables, rearing goats and ducks, and she can withstand major setbacks.

Image 5.12: Fahmida, a fieldworker of Shushilan

Both Fahmida and Munem have been involved with Reclaim for seven years and they developed a deep bond with the beneficiaries. Fahmida had this to say about her close ties with Tahira and Roksana:

> The relationship has become very deep and they think of me as their *barir meye*[25]. I conduct meetings with beneficiaries every month, come here for follow-up each week, I listen to their problems and they would often call over the phone. Sometimes I would just chat with them when I come here for a follow-up. I enquire about their family members, kids, overall health and wellbeing. If I see something positive elsewhere, I tell them about that and encourage them to try. I tell other beneficiaries about the good practices I see from them. When they say something I listen to it intently, I give importance to their opinions. This is how intimacy has developed over time.

At the beginning of the project, beneficiaries would communicate with a Shushilan staff member regarding any issue with pigeons. The Shushilan staff member would contact the veterinary doctor or officer at the local DLS office and would inform them about the issue. Afterwards Shushilan called a meeting with all beneficiaries, livestock officers and veterinary doctors. Beneficiaries were introduced with the livestock officers and veterinary doctors and they exchanged contact numbers. Beneficiaries now call veterinary doctors or livestock officers when a pigeon gets ill. They provide solutions over the phone if feasible, if not, they visit beneficiary's house to examine the bird. Sultana and Mallick (2015) have identified in their research that people of Shyamnagar Upazila are moving towards rearing birds and small

[25] *Barir meye* (বাড়ির মেয়ে): Considered as a quasi-daughter of a typical Bangladeshi family resulting from closeness and intimacy

animal such as pigeon, sheep and goats in place of cow and buffalo. Cattle rearing has become infeasible in this area because of the lack of pastureland, fodder and freshwater. They noted in their research that inhabitants of Atulia UP of Shyamnagar Upazila started to rear pigeons in open and close methods. People find it easier to rear pigeons since pigeons are less vulnerable to storms and tidal waves, while pigeons can feed themselves from various sources. Pigeon rearing has been profitable for Reclaim beneficiaries, although sometimes pigeons are lost or stolen.

Forming Effective Committees

Shushilan has been working in the Shyamnagar area for more than 25 years. It has gradually developed four committees or cooperatives consisting of people from local communities. These committees are – Shuvoshokti committee, Shushomoy Krishok Dall, Shadhikar and Shujon. All four committees include not only beneficiaries of Reclaim and other projects of Shushilan, but also include members of the wider local community. Two of these committees directly helped in the implementation of different components of Reclaim. Shushomoy Krishok Dall is a group for farmers and all beneficiaries of composite farming are members here. The committee members are well aware of climate change, weather hazards and salinisation issues that affect crops and vegetables. Aarti, Kanta, Fuad and Sattar are members of Shushomoy Krishok Dall. While Shuvoshokti committee looks at wider social issues such as sanitation, poverty incidence and state of communication infrastructures (i.e. roads, culvert and bridges). Each committee holds a monthly meeting where the president, secretary, cashier and members are present and they discuss various project related issues (e.g. what is working and not working).

Image 5.13: A library established by Shuvoshokti committee members

Munem took me to Munshigonj UP complex and formally introduced me to the UP chairman and couple of UP members. They described their partnership with the Shuvoshokti committee

and took me to a spacious room of the UP complex. The UP allotted the room to Shuvoshokti and the committee members were building a library there. There I met Bilal who is the secretary of Shuvoshokti committee. Bilal told me about his work with the committee:

> The Shuvoshokti committee is formed by 21 members from this Union Parishad. We work voluntarily for the good of the community like *ghorer kheye boner mosh tarano*[26]. We help people, work for the upgradation of roads, conserving rivers, tree plantation, fair distribution of social security benefits from the government and others.

Arif, a member of Shuvoshokti, supplemented:

> Not everyone is active in the committee. We are graduates and we know what is good for the society. We are young and we understand the issues. We give time and effort for the betterment of our community. We get support from Shushilan and UP office. We hold a meeting each month and take initiatives from there. These monthly meetings help up to stay mobilised.

The committee was building the library with the support of the UP chairman. They also received some funds from the Reclaim project to buy books and Shushilan has donated some books for the library. While Bilal and Arif are associated with Shuvoshokti committee, they are not beneficiaries of any components of Reclaim. Shuvoshokti committee also takes in influential members of local community. One such member is Moinuddin who is an affluent businessperson and son of a former UP chairman. I met him in his business office at Garage Bazar Market established by his late father. He has been collaborating with Shushilan for 15 years and he often helps the NGO to collect donations for helping marginalised people of Munshigonj UP. He told me how the market benefitted from Reclaim:

> A meeting place has been built from Reclaim funds. Another room has been built for the farmers of Reclaim so that they can store and sell their produce. To address the shortage of drinking water in the market, we installed tube-wells.

His involvement in the committee has enabled farmers of Reclaim to sell their produce with more ease. He explained to me elaborately:

[26] *Ghorer kheye boner mosh tarano* (ঘরের খেয়ে বনের মোষ তাড়ানো): A popular idiom used in Bangladesh, which means to work for others without remuneration

> They send produce of 4-5 beneficiaries together and beneficiaries bring their own produce if it is more in quantity. We have a separate seating arrangement for Reclaim beneficiaries. Sometimes when a woman beneficiary come here to sell her produce, we place them in the room that was built by the project to avoid unwanted situations. We place male beneficiaries with rest of the market. We make sure farmers of Reclaim can go about their business without any hassle.

Existence of such committees or cooperatives has helped the farmers of Reclaim to get fair price for their produce in the market. Mondal (2010) identified unfair market prices of produces as a major constraint for Bangladeshi agricultural sector. Farmers in Bangladesh often have no such thing as a farmers' cooperative or committee that ensures that they get fair prices for their harvest.

Image 5.14: Sales centre used by farmers of Reclaim in Garage Bazar Market

I also spoke to a prominent member of the Munshigonj UP. Shamima has been involved with Shushilan for more than 20 years and she is a member of both Shadhikar and Shushomoy Krishok Dall. She explained to me how Shushomoy Krishok Dall distributed resources among composite farmers of Reclaim. They often organise meetings to discuss materials that farmers would receive from the project. They tried to determine which farmer would make the best use of resources (i.e. seeds and other agricultural inputs). She said with conviction:

> Resources will be wasted, for example, if we give someone a beehive who rarely goes out of the house. The committee picked those people who can best utilise resources. People who can maintain the beehive, earn some money, and keep his/her family solvent.

Farmers engaged in cooperatives or committees are more likely to embrace adaptive measures to address climate change effects compared to those farmers who do not participate in such common interest groups. A farmer involved in these groups is more likely to work in harmony with fellow farmers by sharing knowledge and ideas, discussing challenges and engaging in collaborative decision-making (Mohammed Nasir Uddin et al., 2014). Members of Shushomoy Krishok Dall has exhibited exemplary collaboration by saving 2,40,000 *taka* in a local bank. This deposit will be doubled when it matures in January 2021 and will belong to all the members of the group.

Ensuring transparency and accountability are key benefits of forming such committees. Beneficiaries might question the intent and honesty of Shushilan staff members when dissatisfied with their allocated resources. These committees take decisions on resource allocation among beneficiaries that help to avoid such complicated situations. Shushilan often called meetings with these committees for their observation, comments and suggestions regarding activities of Reclaim. During field visits, officials of Christian Aid also held meetings with members of these committees regarding project effectiveness, barriers and other relevant issues. Amina was the lead coordinator for Reclaim from Shushilan. In her opinion, these committees have given a platform for the Reclaim beneficiaries that they used as a mean to improve their livelihood and social awareness. Shushomoy Krishok Dall consists of farmers who use it as a medium for exchanging agricultural and livelihood related information and ideas. For example, a farmer might discuss about his/her experience of cultivating a particular variety of paddy or vegetable. Other farmers could find this information useful and decide whether to implement it or not. She enlightened me about interlinks between Shushomoy Krishok Dall and Shuvoshokti committee. Shuvoshokti is a platform for the youths of the local area. They are mostly concerned with social issues. She told me about an incident when Shuvoshokti assisted the farmers of Shushomoy Krishok Dall:

> A rich farmer build a levee few years ago and it started to hamper some composite farmers of Reclaim by blocking water flow to their land. There is no such regulation that permits building such a levee. The rich farmer dismissed members of Shushomoy Krishok Dall when they approached him. Then the farmers talked with members of Shuvoshokti committee and the members decided to confront the rich farmer. The committee members maintain cordial relationship with the UP chairman and often help in various activities of the

UP. Shuvoshokti members and the UP chairman discussed the issue with the rich farmer and compelled him to demolish the levee. Likewise, Shushomoy farmers often help members of Shuvoshokti committee in various issues.

These committees are fully functional and are capable of addressing complicated situations like the above. When faced with a problem, committee members approach it together and sought help of other committees if needed.

Association of Extraordinary Individuals

I will use this part of the chapter to talk about an extraordinary person whom I came across during my fieldwork. Shamima is an elected member of Munshigonj Union Parishad and is recipient of many awards for her outstanding contribution to society. She only studied till higher secondary but her wisdom, persistence, vision and courage left a lasting impression on me. I cannot possibly credit Reclaim project for her outstanding qualities. But association with Shushilan has played a huge role into her morphing from an ordinary rural Bangladeshi woman to a nationally recognised UP member. As I entered her house made from mud and thatch, I saw three men who came to meet her. There was only one room in her house and that tiny room served as a bedroom, living room, dining room and her office. Now there were six people in the room including Munem and I, with barely any vacant space. Eid ul-Fitr was only four weeks away and those men were consulting with Shamima to sort out distribution of rice for her ward[27]. Every poor family of a ward receives 10 kg of rice from the government durind Eid ul-Fitr and Eid ul-Adha. Ensuring fair and efficient distribution of this rice is a crucial task for every UP member and UP chairman of Bangladesh.

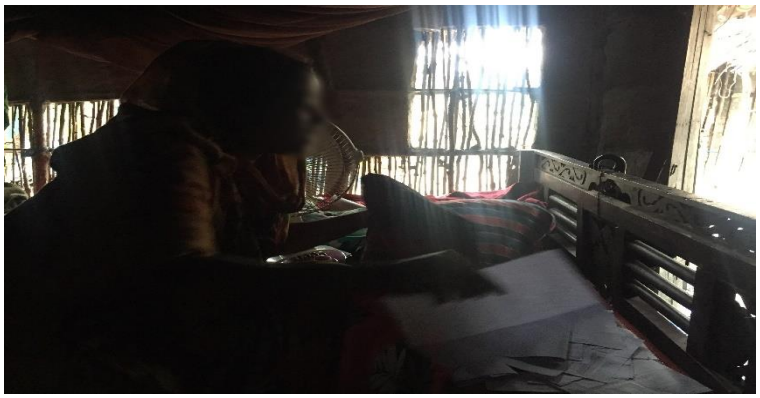

Image 5.15: Shamima going through lists of people eligible for free rice from the government

[27] Part of a Union Parishad (UP). Generally, there are nine wards in each UP

Munem blurted out as she saw us:

> Shamima *Apa*[28] has become a hero from a zero. I don't have to say anything more. *Apa* will say what *Apa* has to say.

After exchanging pleasantries and explaining my research intentions to her, I veered to my usual line of questioning, what do you think about the resources provided to beneficiaries from the Reclaim project? I was expecting a straightforward answer but she said:

> It is not possible to change someone's life just by handing out something. An individual changes when his/her mind-set changes. People slowly change their lives through various learning and resources from such projects that may include vegetable cultivation, saline resistant paddy cultivation, mixed cultivation of fish, vegetable and paddy, poultry, dairy, cow fattening and access to veterinary doctors or making paper bags and boxes. But it will not help if people are only dependent on handouts from government and NGOs. We are bound to change when we change our outlook, utilise what we get from the government and NGOs and reduce dependency on handouts.

Then she proceeded to tell me about her incredible life story, struggles, involvement with Shushilan and about her role in overall development of her community. Her father was an influential UP chairman for thirty years. Her mother was the second wife of her father and they had two daughters. Her father neglected them while giving more preference to his children from his first marriage. Not having any brother made their situation worse. She reminisced her struggles:

> My mother, sister and I inherited 14 *bigha* of land from my father after his death and this land put us into more trouble because my half-brothers wanted them. We were poor even though we inherited considerable amount of land. I would often go out to crop fields at night and steal crops that belonged to us. While my mother sued my half-brothers to assume ownership of the land with my younger sister. My mother would not settle for any less than 14 *bigha* and this stubbornness caused us to live in poor state for considerable amount of time.

[28] *Apa* (আপা) is a Bangla word, which is used to call upon a woman who is older in age

She kept fighting with her half-brothers and would often steal mango, coconuts and palms at night from their property. She believes people who live in the nature are fiercer and her rebellious life and her parents' genes turned her into a fighter. She particularly recalled one incident:

> One night I was cutting paddy in the field and one of my half-brothers was plucking palms. He scared me by posing as a ghost and I ran to my house. I thought we have the same father and yet they can enjoy the properties in broad daylight and I have to wait for night to do the same. In the following morning, we had a huge bust-up with my half-brothers and it nearly got violent. After the big fight we got full control over our land.

Her mother had her married when she was only twelve, primarily to have a man in the house. She gave birth to a son in 1997 but the child only survived nine months. She became more rebellious after that and would often fight with her husband. Her clear tone suddenly became heavy and she paused several times:

> It was the most difficult phase of my life. We did not yet assumed control on the land that we inherited from my father. We started to have financial problems and my husband was unable to provide sufficiently for us. Coupled with the grief of losing our son, he became disheartened and would often went away for six to twelve months. At that time, Shushilan started forming groups and I became a member of a common interest group in 1998.

She took 1500 *taka* loan from Shushilan and leased a shrimp *gher*. She made a profit of 5000-6000 *taka* and repaid the loan. Her husband returned home and she asked him not to migrate to look for work and asked him to work with her in the shrimp *gher* instead. She took another loan from Shushilan for 5000 *taka*, which she used to buy a cow. She repaid that loan too by selling milk and she increased the number of cows to nine within couple of years. She did not settle and started to work even harder:

> I started to sell the cows to buy land. I leased three more shrimp *gher*, invested in poultry, took veterinary training and people would come to my house to get veterinary service for their domestic animals. I increased my land ownership to 10 *bigha* of which I used 2 *bigha* to cultivate paddy. That paddy field was surrounded by salt water and I used to have only one harvest per year during rainy season. Shaikh Shiraj, a national TV celebrity, came here to shoot an

> episode of his renowned 'Krishoker Eid Anondo' magazine show in 2012. I won 1,50,000 *taka* from that show and bought a shallow irrigation machine and I started to get three harvest per year. We also assumed full control over my father's land the same year. We became financially solvent.

Shamima no longer qualifies to be a beneficiary of any development project. Nowadays she plays a crucial in Shushilan's Shadhikar committee and Shushomoy Krishok Dall. In 2018, she decided to venture into politics and run for Union Parishad election as member. She won the election handsomely and since became more instrumental in the wellbeing of her constituency. Besides being closely involved with development projects of numerous NGOs, as an elected UP member she now has added responsibility of representing her ward at Munshigonj UP and ensuring fair distribution of government assistances among eligible people. Working closely with many development projects has given her a unique perspective about development work. She explained to me in a definitive manner:

> Often I see a beneficiary gradually climbing the ladder of prosperity when I get her some tailoring training, a tailoring machine, some clothes and staying with her for a period of time to provide support and mentoring. Only getting a tailoring machine is not enough because we need to provide continuous support for a period to ensure her business is running. There are some projects where they buy a beneficiary a tailoring machine, but often the beneficiary ends up selling the machine when the project phases out.

This is where she thinks Shushilan did a good job by staying with the composite, shrimp and pigeon farmers of Reclaim for many years. She continued:

> A problem often occurs while selecting beneficiaries – some are given cows who have no experience in dairy or cow farming. Shushilan or Christian Aid did not play a direct role in selecting beneficiaries for Reclaim. It was done by us, people who know the community well and also know who are capable of doing what.

Image 5.16: Shamima keeping in touch with her community

Leading up to the Copenhagen Climate Change Forum in 2009, former UN Secretary-General asked world leaders to make women equally engaged in climate change related decision-making. The former UN Secretary-General emphasised the understanding of women's vulnerability to climate disaster situations and that women must be considered as change agents and custodians of knowledge necessary for the management of local natural resources (Alston, 2015). Khurshed Alam and Rahman (2014) noted that women from southern coastal regions of Bangladesh are compromised by loss of livelihoods, housing and inheritance, education, little participation in decision-making and management activities, no access to relief materials and sexual harassment during times of natural disaster. While marginalised standing and maltreatment from the community at large make women from hill tribes and remote coastal areas more vulnerable to adverse effects of climate change (A. U. Ahmed, Neelormi, Adri, Alam, & Nuruzzaman, 2009). On the other hand, women in rural Bangladesh have become more involved in livelihood, social mobilisation and politics. This not only limited to women of affluent families since women from poor households have made significant strides in various aspects of rural Bangladesh (Lewis & Hossain, 2008a). But the case with Shamima is unique. Being from a rich family, yet not getting access to assets that she inherited from her father, disputes with her half-brothers and even severe disagreements with her husband that almost lead to the destruction of her entire family. She told me about an incident when she literally threatened to murder her entire family unless her husband agreed with her:

> I will poison you and your son, set fire to the house, and then I will drink poison. I will not leave you alive so that you can marry another woman and start a new life. I will take you all with me if I decide to die.

Shamima oozed a sense of confidence mixed with stubbornness, strong-will, decisiveness and sheer competence. The close association with Shushilan for more than two decades has transcend her inner qualities to prosperity and development of herself and her community. In return, development projects implemented by Shushilan, including Reclaim, have hugely benefitted by her involvement. Shamima repeatedly uttered the importance of raising one's voice when faced with injustice. Rural Bangladeshi women are groomed to accept their fate without questioning and be submissive to authoritative male figures. Kabeer (2011) considered voice as an important tool for challenging the culture of submissiveness in part of Bangladeshi women. The simple issue of voice or being-listened to, have empowered many Bangladeshi women like Shamima.

Ending Discussion

A World Bank (2013) report noted that on a scale from 0 to 1 with regards to water security, 0 being no apparent thereat while 1 being extremely threatened, the score of Bangladesh varied between 0.8 to 1. Farmers of south-western Bangladesh identified salinity and drought as major threats to crop production, while consistently ranking lack of available water and shortage of cultivable land as the top impediments towards successful adaptation strategies to climate change. Bangladeshi farmers have implemented various coping strategies advocated by research and development projects as potential avenues to deal with climate change effects. However, research regarding adaptation strategies has not shed any light on how farmers are adapting their farming activities to match with the changing environment (Mohammed Nasir Uddin et al., 2014).

In this chapter, I have tried to address some of these issues by studying the outcomes of the Reclaim project and the successes in developing resilient livelihoods for its beneficiaries. Reclaim could only take a limited number of beneficiaries in its components. However, all three UPs of the project consist of tens of thousands of poor farmers and inhabitants who are suffering from the effects of climate change and cyclone Aila. Fieldworkers of Shushilan were always able to identify many potential beneficiaries who qualify for a component of the project. For an example, Fahmida had details of six households from a particular village who were eligible for composite farming. However, the project was only able to enrol two households because of budgetary constraints. While all beneficiaries I have spoken to complained about the infrequency of training sessions that became rare as the project was in its final year. Girish, the project-lead from Christian Aid, praised Shushilan's work with respect to climate change adaptability but criticised Shushilan's inability to keep pace with

recent trends in development work in Bangladesh. Recently, many Bangladeshi NGOs have made significant advances in private sector engagement and market development interventions. ESDO is such an NGO and its work has been presented in Chapter Seven. Nonetheless, Reclaim has made noteworthy contributions to a number of Sustainable Development Goals (SDGs) (General Economics Division, 2018). By increasing income and food production through climate suited on-farm livelihood, the Reclaim project contributed to SDG 1 (No Poverty) and SDG 2 (Zero Hunger). While developing a freshwater source in the households has been a huge boon for the beneficiaries, which has direct implications on SDG 13 (Climate Action).

The central objective of developing resilient livelihoods in the project area was to assist inhabitants to become economically solvent so that they are less vulnerable to adverse climate change effects. Given the unfavourable environmental conditions, although improving, of Shyamnagar Upazila, combined with its remoteness with larger economic hubs such as Khulna and Dhaka city, developing sustainable livelihoods here is easier said than done. People of this area were completely dejected and demotivated after Aila. There were no agricultural production for a couple of years post-Aila. Almost all households had some trees in their backyard before, Aila destroyed everything and there were no greenery left. When beneficiaries were approached with the Reclaim project, they showed a great deal of interest and this project started to bear fruit. They were introduced with new technologies and they started to get success. Now beneficiaries identify and solve problems, organise meetings among themselves, initiate communication with relevant people and government officials when needed. Roksana, the woman from Burigoaliny UP, who rears pigeons, was able to bounce back after all her pigeons got stolen. Alike Roksana, majority of the beneficiaries of the Reclaim project, have been able to bounce back from the gloom days of Aila.

Chapter 6: UMIMCC

Description of the Project

With worldwide operations Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is an international development organisation for sustainable development. GIZ is fully owned by the Government of the Federal Republic of Germany. GIZ Bangladesh provides technical cooperation on behalf of the German Ministry of Economic Cooperation and Development (BMZ). It participates in numerous development activities in Bangladesh with a range of operational partners. The Urban Management of Internal Migration due to Climate Change (UMIMCC) project was one of many development projects managed and coordinated by GIZ Bangladesh. The objective of this study is to answer the following research question: what are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh?

This chapter showcases GIZ's UMIMCC project that was implemented under the purview of the prioritised sector 'Climate Change and Adaptation in Urban Areas' of both the German Government and the Government of Bangladesh. UMIMCC was implemented from January 2015 to December 2017 with German technical cooperation and the project received five million euro funding from the German Ministry of Economic Cooperation and Development (BMZ) (GIZ, 2017). The objective of this project was to make migration a successful adaptation option for both climate migrants and host cities, namely Khulna and Rajshahi, two major urban cities of Bangladesh with high percentage of climate migrants (approximately 70%) among slum dwellers (Price & Taylor, 2016). There were two overarching objectives of UMICCC. Firstly, creating a healthy environment in the urban slums by improving basic infrastructures. Secondly, improving employment potentials of climate migrants through short-and long-term income opportunities (Stumpf, 2016). These two objectives would ultimately contribute to the economic development and improved living conditions for climate migrants and host communities.

GIZ implemented the UMIMCC project with the help of numerous government ministries and agencies, NGOs, project beneficiaries, local community members and political leaders. At the ministry level, the Ministry of Social Welfare (MoSW) was the chief partnering ministry while the project also maintained communication and coordination with the Ministry of Local Government, Rural Development and Co-operatives (MLGRDC). UMIMCC

worked with two government agencies in the field in Khulna- Department for Social Services (DSS) and Khulna City Corporation (KCC). DSS is the focal point MoSW in Khulna, while KCC reports to Local Government Division (LGD) and LGD is a part of MLGRDC. Though UMIMCC operated in two cities (Khulna and Rajshahi), I only studied the project activities in Khulna City because of resource and time constraints (figure 6.1).

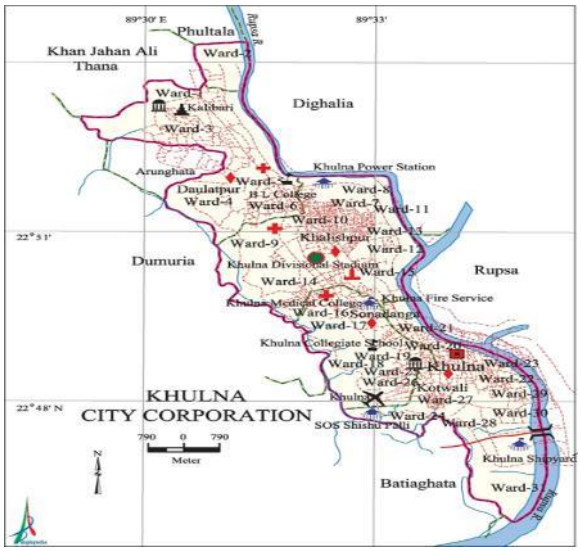

Figure 6.1: Location of UMIMCC project

Source: http://en.banglapedia.org/index.php?title=File:KhulnaCityCorporation.jpg

GIZ partnered with two NGOs to carry to out UMIMCC activities in Khulna. Caritas Bangladesh, an established and well-reputed NGO, was responsible for the construction of new slum infrastructures and upgrading existing slum infrastructures to improve living and hygiene conditions of eight project slums. The word 'Caritas' is a Latin word which means charity or universal love. It was established in 1967 as the eastern branch of Caritas Pakistan in Bangladesh (then East Pakistan). Following the disastrous cyclone of November 1970, Caritas Pakistan was restructured and became known as Christian Organisation for Relief and Rehabilitation (CORR). After the liberation of Bangladesh in 1971, the name Caritas was re-introduced in 1976. Caritas Bangladesh is a member of the Caritas Internationalis, which is a confederation of 165 Caritas member organisations over two hundred countries and territories (Caritas Bangladesh, 2016). The head office of Caritas Bangladesh is located in Dhaka and it has eight regional offices in Dhaka, Chittagong, Sylhet, Khulna, Barisal, Rajshahi, Dinajpur and Mymensingh. Caritas Bangladesh has activities all over the country in integrated development, human resource development and disaster management. It currently has 96 ongoing projects in 53 districts of Bangladesh.

UCEP Bangladesh, another established and reputed NGO, was responsible for providing vocational skills development training to climate migrants in various occupations with job placement support in Khulna. UCEP is a pioneering NGO in Bangladesh's Technical and Vocational Education and Training (TVET) sector. UCEP is working since 1972 to uplift socio-economic conditions of marginalised and underprivileged communities through providing employment and skills training. With ten UCEP technical schools that are Registered Training Organisation (RTO), UCEP collaborates with public and private sector partners throughout Bangladesh. UCEP's chief goal is to ensure decent employment for the workforce by 37 skills development courses of varying duration to match the need of trainees, projects, industries and enterprises (UCEP Bangladesh, 2019). UCEP's headquarter is located in Dhaka with ten technical schools and sixteen outreach centres all over Bangladesh.

KCC advised GIZ to include Community Development Cluster (CDC) members in UMIMCC when GIZ approached KCC to implement the project in Khulna. CDC groups were part of a United Nations Development Programme (UNDP) project named 'Urban Partnerships for Poverty Reduction' (UPPR) that started in 2008 (Cabannes, 2016). CDCs consist of women who came from urban slums with underprivileged backgrounds. The UPPR project organised these women to encourage representation from the slums with a view to spur leadership capabilities in them. CDC members played an instrumental role in the implementation of UMIMCC.

In Khulna, I visited a project slum where basic slum infrastructures were constructed and the training centre where beneficiary climate migrants received vocational skills training. I interviewed slum dwellers who took part in the construction of the infrastructures and who are using those infrastructures now and trainees who received various vocational skills training. I also interviewed key officials of Caritas and UCEP, relevant government officials from DSS and KCC, GIZ officials responsible for UMIMCC and local community leaders from CDC. Below I will narrate what I found in the UMIMCC project through interacting with its various stakeholders and visiting its numerous sites and components.

Having Competent NGOs as Partners

Caritas approached GIZ and made a presentation of their ongoing development projects. After evaluating Caritas's profile thoroughly, GIZ decided to work with Caritas and entrusted them for improving basic slum infrastructures of eight slums in Khulna City. The eight slums

are as follows: Purba Boyra Kader Sarder Para, Sornali Colony-Sarak Bhaban, Hafiz Nagar Khura Slum, Rupsha Notun Bazar Bablu Mollah Goli, Babul Sikder Rupsha Sashan Ghat, Rahamaia Para, Begum Rice Mill and Cement Factory Laban Chara slum (Caritas Bangladesh, 2018). These eight slums were from six wards[29] of KCC. A range of basic infrastructures were built in these slums that included single and double chambered toilets, cement concrete (CC) walkways, drain lines, bathing rooms for women, while repairing dysfunctional toilets and tube-wells. I got myself engaged in conversations with slum dwellers, Caritas staff, GIZ staff and local community members to know about the quality of Caritas's work while I was visiting one of the project slums and other relevant project locations and offices.

> Without any doubt, Caritas has done really well. The work was completed about a year ago and they are still in good condition. It is a rarity in slums.

Replied Mita, a slum dweller, when I asked her about the quality of Caritas's slum infrastructure works. I asked the same question to Xavier, the German who was in charge of UMIMCC for GIZ and he replied with a short answer:

> I would say remarkable!

I also discussed the issue of quality of slum infrastructures with CDC members who were closely involved with the activities of infrastructure development. A CDC member by the name of Rina told me that Caritas made a commitment with CDC to maintain quality and standards of the infrastructures. Rina summarised her opinion about Caritas's work:

> They have done well.

Though it had been almost a year since Caritas completed the infrastructure works, I found all infrastructures functional while I was conducting fieldwork in the Babul Sikder Rupsha Sashan Ghat slum. It prompted me to have a closer look at Caritas and I went to its Khulna office to know more about the organisation. There I spoke with Robin, Sumon and Gomez who were the regional director, construction officer and administrative officer respectively for the Khulna office of Caritas and I was able to learn about the attributes that made Caritas such an efficient NGO.

[29] A ward is an administrative area of a City or Municipal Corporation of Bangladesh. City/Municipal Corporations have their areas divided into wards for the ease providing service to inhabitants.

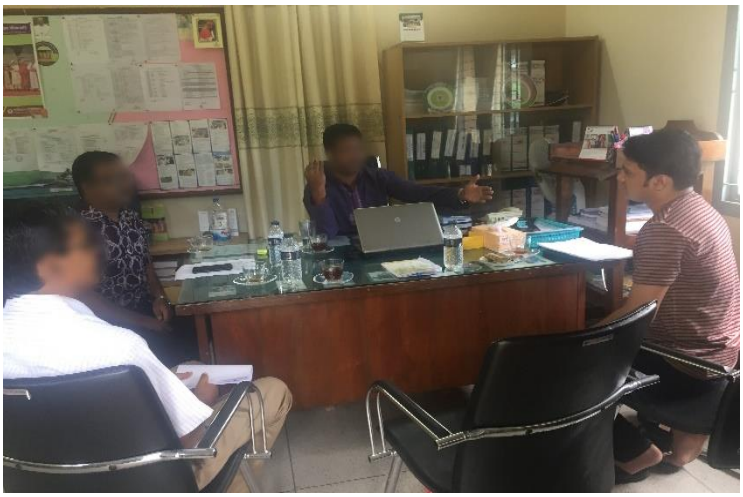

Image 6.1: Author in conversation with Caritas staff members in Khulna

Caritas assigned highly experienced and skilled staff for implementing the project. One project manager and one junior project officer, both having civil engineering backgrounds, were responsible for carrying out infrastructure works in the slums. They assisted two site engineers and four field supervisors who had technical and social expertise for implementing similar infrastructure works. Caritas not only employs highly skilled staff but it also knows how to retain them. The regional director, construction officer and administrative officer have been with Caritas for 13, 5 and 28 years respectively. I asked the regional director, why staff remain with Caritas for so long? Robin replied to my question:

> I get less salary than other NGOs. I am a regional director and I get less money than a fieldworker of GIZ. Salary is the not the main issue for Caritas, but it is service. When we interview someone for a vacancy, we want to know whether the candidate wants to provide service or wants money. When a new employee joins here, she/he is informed that there is no difference between a regional director, supervisor or a programme officer. Since I am working here as regional director for two and a half years, I never have to worry about staff turnover that is almost zero.

Gomez, who has been with Caritas for almost three decades had this to say:

> Caritas has become my family for 28 years. I have already retired but working as a contractual staff member now. The love and this mentality of providing service is not present in other organisations.

Caritas looks after its staff even in the era of time-bound project oriented development. It transfers staff members from an ending project to running projects so that he/she remains employed. As a result, Caritas Bangladesh has transformed into a big family where staff do not mind working on weekends if necessary. Caritas sees itself as a NGO++ service oriented organisation and its chief purpose is serving the community. The regional director clarified:

> Main moto of Caritas is – no matter who you are, you will be treated as the most respected person. Whoever stands at our door- we will treat them with respect. If someone is in trouble, Caritas will stand by him/her with our limited resources. Even if we cannot help them, we will visit them.

Gomez said to me while pointing to the simplicity of the office where we were talking:

> This room is the office of the regional director but it is not at all luxurious. No air conditioner, no TV, only a simple desk and a laptop. But if you go to another similar organisation, you will see lots of luxury. Caritas does not believe in flamboyance.

Another major component of UMIMCC was vocational skills training and development with a view to promote income opportunities and economic potential for climate migrants and host communities of Khulna. GIZ collaborated with UCEP Bangladesh to provide various skills and vocational trainings to climate migrants because UCEP has a well-equipped training school in Khulna City. UCEP trained 760 climate migrants in a range of occupations that are as follows: beautician, tailoring and dressmaking, motor cycle servicing, mobile phone servicing, air conditioner technician and electrical house wiring. 686 trainees were able to find either wage or self-employment out of 760 trainees (GIZ, 2017). I interviewed some of these graduates, UCEP trainers, GIZ staff members and DSS official to ascertain the effectiveness of these vocational skill trainings. Jahanara is a climate migrant and she got training in tailoring and dress making. I asked her what she thought about the trainers of UCEP. She said:

> I learned tailoring hence our classes were taken by Kaberi madam. She is great, she taught us with a lot of care and she had a lot of patience with us.

Rajiv, a young man who learned about mobile phone servicing from UCEP added:

> The trainers never misbehaved with us. They made sure we were getting the lessons. The teachers used verbal disciplining when the trainees were not paying attention.

All the graduates I interviewed came from different backgrounds and they had dissimilar work but they had one thing in common. They had tremendous respect and trust for their trainers. Mustafiz is the DSS official who was in charge of coordinating vocational skills development component of UMIMCC in Khulna and overseeing UCEP's activities. I enquired to him about the outcomes of UCEP trainings and he confirmed:

> Lots of success. Very good training and job placement through UCEP to climate migrants from every background, which is helping them to earn more.

Image 6.2: Author in conversation with trainers of UCEP in Khulna

UCEP has a group of dedicated trainers who are highly skilled and have been working for the organisation for many years. Its staff admire many attributes of UCEP and it provides a safe working environment for women. Nargis has been working for UCEP for 21 years and she did significant work in UMIMCC. She has been virtually running UCEP Khulna and is engaged in community mobilisation, documentation, visitor facing, field visit, and GO (government organisation) and NGO communication. She had this to say about working for UCEP:

> As a worker I will see my interest first. When I first started working for UCEP, the salary was better compared to schools, though work at UCEP was more. There were many scopes of promotion and career development. Most importantly UCEP gives lots of respect to its female employees. Good

> environment, support during pregnancy and no sexual harassment. This is the reason why I have been with UCEP.

Aside from being a good employer, UCEP is a leading training institute having comprehensive knowledge regarding labour needs and employment requirements of Bangladesh. The six occupation or trades were selected chiefly by UCEP. GIZ was aware that UCEP maintains up-to-date data about skills and labour requirement in Khulna with coordination with International Labour Organisation (ILO). Alif, the senior training instructor added:

> I do not think development organisations impose solutions without studying the market and they try to address the market demand. ILO knows the industries and ILO knows about the labour demand in various industries. That is why ILO has given UCEP numerous work to train up people. ILO has a database of labour requirement and they provide UCEP training demand to meet that labour requirement. We have done major work with ILO as well.

GIZ understood that it would be wise to go with the vocations and trade options suggested by UCEP. As a result, majority of the trainees (686 out 760) were able to find work. GIZ was satisfied with the work UCEP had done with the trainees. Moreover, UCEP was responsible for following up whether graduates got wage or self-employment, whether trainees were continuing work or have left. Ramesh, training coordinator for UCEP Khulna, informed me how they follow up:

> We track for six months after graduation, whether the trainee is continuing in the job or switched for a better job or have left the job.

The impressive characteristics of Caritas and UCEP have positively affected UMMCC activities and other stakeholders of the project. It is obvious that both Caritas and UCEP have benefitted from having competent and committed staff members who played a crucial role in the successful implementation of UMIMCC. Bangladesh is known as a fertile land for NGOs because it ranks number one in the world with respect to the number of NGOs for every ten thousand people. However, very little research has been done on the issues of staff and personnel management of NGOs in Bangladesh. Success or failure of NGOs and their projects depend heavily on their ability to attract competent people and developing them through effective management practices (K. M. Rahman & Sultana, 2012). But retaining highly experienced and skilled staff is one of the biggest challenges faced by most NGOs.

International, national and regional NGOs operating in Bangladesh mostly offer contractual employments that match the tenure of particular projects. An employment contract automatically ends when the project is phased out. Only a handful of large NGOs have the capacity to offer long-term employment to staff. Large NGOs like Caritas and UCEP implement multiple projects simultaneously and they can shift staff members from an ending project to a new or ongoing project. As a result, staff members feel assured and remain with the organisation for long time as seen in case for Caritas and UCEP. Another hallmark of competent NGOs is that they are able to withstand competing pressures from partners and stakeholders without compromising their core values (Hailey & James, 2004). Both Caritas and UCEP have shown impressive traits when faced with complicated and unprecedented roadblocks. These traits will be explained throughout this chapter.

Interest of the Trainees

Vocational skills development component of UMIMCC started with some major complications in Khulna. GIZ and the mayor of KCC had strong disagreements on the issue of paying allowance to trainees. GIZ argued that trainees should be there for training and skills and they should not be attending trainings just for the allowance. Usually all NGOs, either national or international, pay allowance to trainees or participants for attending any kind of training. This has been going on for decades in Bangladesh and has become a common practice. I was quite surprised when GIZ officials told me that they were not paying any allowance to trainees. So I asked why they were doing so. Xavier, who was in charge in UMIMCC for GIZ, answered:

> We actually did not anticipate the problem because there is high demand of skills trainings and learning in Khulna. Some people suddenly started to ask for money but GIZ did not pay any travel, food or daily allowance. We have seen in other countries that people attend training just for the money and never actually look for employment. It is also very easy to just stay in the training centre and not learn anything but getting paid the minimum wage.

Moreover, a very high level official (additional secretary) from the Ministry of Social Welfare (MoSW) agreed with GIZ's stand and opined that trainings should be held without any sort of allowance to trainees. However, the mayor strongly disagreed with GIZ and MoSW because he thought trainees must receive allowance for their time invested in training sessions. As a result, the mayor declined to inaugurate the vocational skills development

component of UMIMCC. Although, he inaugurated the infrastructure works component in the slums but the skills training could not commence for months. Ultimately, a solution was reached when the mayor decided to provide lunch for the trainees, while UCEP provided transportation support. After that the mayor gave green signal to skills development and vocational training component of UMIMCC. The problems did not end there for this component. Even after getting transportation and lunch money, UCEP found it extremely difficult to recruit trainees for training. Almost no one was interested to attend the training sessions without daily allowance. UCEP took the help of CDC members who have close connections in slum communities to get in touch with potential trainees. UCEP also asked its graduates from previous batches to spread good word-of-mouth to potential trainees about the benefits of vocational skills development. After closely working with CDC for two months to get close to prospective trainees, UCEP finally managed to start a batch of 75 trainees who were very interested about vocational skills training without any daily allowance.

Image 6.3: Trainees in mobile servicing training. Source: UCEP

I got myself engaged in a friendly conversation with trainees who received skills training on tailoring, beautician, mobile phone servicing and motorcycle repairing. They told me their experience with UMIMCC's vocational skills training and learning. Rajiv told me:

> I am not originally from Khulna. My parents and I came from Bagerhat[30]. Things were not so good in Bagerhat that's why we moved to Khulna. I took mobile servicing training, I also work as an electrician during the day from 9

[30] Bagerhat District is only an hour drive from Khulna City.

am till 3-4 pm. Then I thought I can increase my earnings by servicing mobile phones. That's the reason I took the training.

Parvin came from Koyra[31] when she was a kid. She got married when she was in high school and started having financial troubles from few years ago. She said:

I got acquainted with a UCEP trainer and he let me know that UCEP provides training. I enquired and learnt that UCEP teaches work in parlour and beautician. I thought why not learn about this because I usually stay at home doing nothing. Then I took the beautician training for 45 days. And after the training I am doing quite well.

Jahanara had a sewing machine at home but she didn't know how to work it. She added to Rajiv and Parvin:

I came here and got tailoring training. Now I work from my home and I make some money.

They were not paid any daily allowance for attending training but they were disappointed with the 45 days training and were looking for more lengthy training courses. Parvin complained:

I had a lot fun but the training period was not so extensive. Only 45 days course and the weekends were off. Beautician training has lots of work. Each component such as facial or hair cutting involves different process. You cannot learn all of these in such a short time of 45 days.

Jahanara was disappointed because she was not able to get proficient in a particular sewing machine:

Our only limitation was that there was only one lock machine and we did not have adequate practice on that machine.

Rajiv summed it up for all of them:

Longer training would have been better for the learning process.

[31] Koyra Upazila is in Khulna District. The upazila is adjacent to the Sundarbans and about 100 kilometres away from Khulna City.

Image 6.4: Trainees in tailoring training. Source: UCEP

Image 6.5: Trainees in electrical house wiring training. Source: UCEP

All these graduates showed high levels of interest in their respective trades. Then I enquired about the outcomes of all these new skills they had acquired. Parvin and Jahanara started to earn money for the first time in their lives through self-employment. Jahanara makes an earning by making clothes for her neighbours and customers. Parvin said:

> Someday I earn 100-150 *taka*, some days I don't earn anything. But it is going well and there is definite improvement as I did not earn anything before the training. I don't work in any parlour. I have bought some beauty products. I provide the service at home and I go to the residence of some customers that I know well. So at the month end I am making a good amount.

Rajiv has been able to augment his income:

> My chief work is still electrical and I specialise in wiring. There are some mobile servicing shops in the area. In the evening I go and work there and they pay me some money. With the mobile servicing, each month I make another 3000-4000 extra money.

An independent third party consultant appointed by GIZ, found in its evaluation report that all trainees had been able to raise their income by an average of 15% (GIZ, 2018). Dinesh, head of technical training of UCEP, thinks it depends 80% on the interest of the trainee. He opined:

> Trainees who have done well they came to the class in time, were rarely absent, they thought about it and had a plan about where to go after training was completed. They start networking and are eager to earn money. Some trainees

want to have this training as a supplement to conventional education to give themselves a competitive advantage. Some are forced by family members and peers but they lose interest soon.

Image 6.6: UMIMCC graduate working in his motorcycle workshop. Source: UCEP

In addition to interest of the trainees, various key attributes of UCEP played a pivotal role in assisting trainees to get employment. All the vocational skills provided in the project had great scope for wage and self-employment that ultimately increased earnings of the trainees. Besides, UCEP has strong policies regarding sexual harassment and gender equality that are adhered by its staff members and trainers which made female trainees comfortable. Ramesh, the training coordinator informed me about UCEP's standard in training:

> We maintain high standard in vocational skills training regardless of the number of attendees. It is not like, if we have more trainees the training will be bad or if we have less trainees then the training will be good.

UCEP trainers believe that vocational skills and occupation choices must not be forced on the trainees and there should be a match between occupation and trainee's interest. By giving trainees freedom to choose their trainings, UCEP was able to ensure effective vocational skills selection. Parvin seemed to confirm the usefulness of matching occupation with one's interest:

> The beautician training was really good. We girls like to put makeup and look nice. It was another reason why I loved the training so much.

Moreover, committed and professional team of UCEP assisted trainees with getting jobs by maintaining close relationships with employers. Alif, UCEP's senior training instructor, informed me that:

> UCEP has signed numerous Memorandum of Understandings (MOUs) with different industries and development organisations. We also work in partnership with the commerce industry of Khulna and our graduates often get jobs there.

UCEP was able to place many graduates in various motorcycle manufactures as technicians. Kashem participated in the motorcycle servicing training at UCEP. He told me about the changes in his life after graduating from UCEP:

> I used to work as a helper in a motorcycle repair shop and would make approximately 4,000 *taka* a month. But it was not enough to support my family. Then I came to know about vocational skills training at UCEP and decided to be a participant in UMIMCC project. After completing the training, UCEP helped me to get a job in TVS Auto Bangladesh Ltd. as a technician and my salary was 12,000 *taka* per month. I worked there for about a year and then started my own motorcycle workshop in Khulna. Now I earn about 15,000 *taka* each month.

GIZ also considered job placement of UCEP to be very useful. Xavier acknowledged:

> I like the job placement part of UCEP and I think this to be a success factor.

Despite being a highly populated country, there is lack of skilled work force in Bangladesh due to weak formulation and implementation of strategies. Bangladesh can only achieve competitive advantage by transforming its huge workforce into human resource through vocational skills development (Newaz, Murtaza, & Sadia, 2013). There is high demand for blue-collar workforce in various industries but the vocational educational sector has not been able to meet the demand. Merely 3% of the students take admission in vocational training institutes compared to student of general education. The government of Bangladesh have plans to increase it to 20% by the year 2020 (World Bank, 2007). There are substantial challenges to reach that figure as majority of Bangladeshis underappreciate the value of a skilled worker and blue-collar jobs in general. Ramesh, the training coordinator for UCEP

Khulna, shed some light on the attitude of many trainees with respect to vocational skills development. He said to me:

> Almost all our trainees come from poor families and they are unaware of many things and they don't have much information. They do not know the value of vocational skills training. Even though realistically they do not have the resources like education and money to be professional such as doctors or engineers. They do not understand the value of being a skilled worker and have a career. They only look for established professions and office jobs around them.

Alif, UCEP's senior training instructor, pointed to another reason for this lack of interest:

> People consider government jobs as *sonar horin*[32] in Bangladesh. The government do not provide any jobs in vocational and technical sectors.

GIZ was well aware of these issues and decided that they will only train people who genuinely wanted to get efficient in an occupation, and trainees will not receive an allowance for merely attending a training session. This decision proved to be correct, as majority of the graduates were able start earning or increase their income through the skills they acquired from training.

Involvement of Slum Dwellers and High Quality Infrastructures in Slums

In eight project slums, Caritas built sixteen double-chambered toilets, fifteen single-chambered toilets, 2315 square metres of CC (cement concrete) walkways, 1089 metres of drain lines, eleven women bathing rooms, and repaired seven toilets and eighteen tube-wells (Caritas Bangladesh, 2018). Slum infrastructure works began in March 2017 and completed in October 2017. These slum infrastructures directly benefitted 7,457 slum dwellers (4,038 men and 3,419 women) of eight project slums (Caritas Bangladesh, 2017). The primary objective was to build climate resilience elements of basic infrastructures such as sanitation (separate arrangements for men and women), drain lines and walkways (GIZ, 2018). A number of underlying reasons prompted GIZ to develop basic slum infrastructures.

[32] *Sonar Horin* (সোনার হরিণ): Bangladeshi idiom that refers to something elusive and highly desired

Images 6.7, 6.8 & 6.9: Slum condition before UMIMCC. Source: Caritas

Sumon, the Construction Officer of Caritas, gave me an overall picture of the eight slums prior to UMIMCC:

> Waterlogging was the most severe problem in these slums. There was no way for rain and sewer water to go out of the slums. There would be waterlogging even after a drizzle and you can only imagine the scenario during monsoon. It would not get any better when the rain subsided. When the weather turned sunny and dry, there would be mud and dirt everywhere.

There was also a need to address some behavioural issues of the slum dwellers, majority of whom were climate migrants. I interviewed Abid, the chief planning officer (CPO) of KCC, who was very disappointed in the way some climate migrants conducted themselves. He said:

> Climate migrants are unware of the etiquettes and culture of the city. The first problem they have is that they throw away trash indiscriminately and they do not know how to use toilets.

As a result, Caritas had to address behavioural aspects of the climate migrants living in the slums while developing basic infrastructures for them. That required Caritas to have a clear understanding of the slums and their inhabitants. Sumon informed me how Caritas started the work:

> After signing agreement with GIZ, we took steps to let the mayor and city councillors know about the works that were about to start. We organised workshops with the Khulna mayor, chief planning officer and councillors of KCC where we planned how the constructions would be carried out.

I asked him why they included KCC from the beginning. He said that KCC has the sole authority over all slums of Khulna City and it would not be possible to start the work without the express approval and blessings from KCC. CDC members and GIZ identified the slums that have higher density of climate migrants, from which the mayor and councillors of KCC selected eight slums for UMIMCC. This ensured complete cooperation from KCC, which was pivotal for slum infrastructure works. Sumon continued:

> Then we engaged in dialogue with CDC members, KCC and GIZ officials to develop a comprehensive roadmap. Only after establishing close links with KCC and CDC, we went to the selected slums.

Image 6.10: Slum dwellers in slum infrastructure planning. Source: GIZ

In the slums, Caritas ensured slum dwellers and members of local communities were involved from need assessment and planning stages. For each slum, a 7-9 member Project implementation Committee (PIC) was formed that included school teachers, CDC members, social workers and slum dwellers. Eight PICs were formed for eight project slums that consisted mostly of women (42 females and 16 males). PICs were closely involve with other activities such as storing construction materials, addressing problems and supervision of work (Caritas Bangladesh, 2018). Caritas staff members consulted with slum dwellers regarding number and location of the proposed infrastructures. Slum dwellers became closely involved with the project because their suggestions were taken into consideration. Rezwana, a slum dweller and a PIC member, told me:

> They first came and ask for our permission as we have been living here for a long time. They said, we will built these infrastructures for you but we need

> your permission. I discussed where the infrastructures were needed in the slum. They took my suggestion into consideration.

Aside from taking suggestions from slum dwellers, Caritas also directly employed them as labours in the construction works, which provided a source of income for them and encouraged more involvement with the project. Slum dwellers are generally poor, while climate migrants living in the slums are poorer because they have fewer income sources. Instead of hiring head mason, masons and labourers from outside, Caritas employed slum dwellers to carry out construction works in their respective slums. Caritas hired labours from slums at market rate, which became an income source for slum dwellers for eight months. Caritas also trained the slum dwellers in identifying high and low quality construction materials. As a result, they were able to send back low quality construction materials. Sumon confirmed me:

> We took the labourers from slums and trained them in various areas of construction.

Images 6.11, 6.12 & 6.13: Slum dwellers constructing slum infrastructures. Source: Caritas

Sohani who is a slum dweller had this to say:

> We were closely related with construction works. I took training and I was always with Caritas people. I would often leave my household duties to participate in the work.

Caritas sourced some expertise (i.e. plumber and welders) from outside when they were not available in the project slums. Caritas mostly employed slum dwellers to build the infrastructures so that they have an understanding about building good quality toilets, walkways and drains, which has ultimately empowered the slum dwellers. Caritas and PICs

carefully planned construction of the infrastructures and made sure it was not harming the slum environment. Sumon added:

> We also trained the labourers to behave with respect with all and especially respecting women. Caritas made sure not to start a controversy in the work area.

The purchase committee of Caritas Khulna bought construction materials and other necessities from Khulna market by following the procurement policy of Caritas. PICs took necessary measures to store construction materials at respective project slums. The mason and labourers executed the infrastructure works according to design and specification with technical support from project supervisor and site engineers from Caritas. PICs and Caritas staff members were responsible for monitoring the quality of construction works in respective slums. Robin, the regional director of Caritas, summed up how the infrastructures changed the slums:

> The common phenomenon in these slums were waterlogging, muddy walkways, broken and unhygienic toilets. We built extensive drains, walkways and toilets that have improved slum environment significantly. Besides new infrastructures, we also repaired dysfunctional tube-wells and toilets that were built by other NGOs and KCC. Then we coordinated new toilets with the existing ones in terms of location.

Maliha, a dweller of the Babul Sikder Rupsha Sashan Ghat slum, expressed to me:

> We are definitely better than before. We used to have waterlogging up to the knee during rainy season and water would often enter our house. Children could not go to school and we faced difficulties in cooking food. We had heavy rainfall this week and thanks to the newly built drains, there is no waterlogging or mud in the slum. We had to bathe inside a narrow space which was surrounded only by clothes and that made us very uncomfortable. Now we bathe inside the bathing room without any worry that someone might be watching us or taking pictures. As you can see we are lot better after these things were built.

Image 6.14: Newly constructed toilet. Source: Caritas

The process of slum development requires understanding of the slum community that can only be achieved by commitment and investing time (I. Ahmed, 2016). Caritas closely studied the selected slums and their dwellers for six month before starting construction works in March 2017. Caritas staff members understood that the proposed slum infrastructures would not benefit dwellers fully unless they ensure adequate community consultation. Before engaging with the slum dwellers, GIZ worked with CDC members to identify slums with higher percentages of climate migrants, out of which KCC selected eight slums. After that Caritas, GIZ, CDC and KCC formulated a roadmap for the construction of slum infrastructures. The process of slum selection and formulating construction roadmap took about fourteen months. They took twenty months for slum selection, construction planning and community involvement. While only taking eight months to complete actual infrastructure work. It is obvious that consulting with slum communities and cooperation between Caritas, GIZ, CDC and KCC have played a major role in the successful development of slum infrastructures. In addition, it is imperative to have local communities involved in decision-making process in order to make development sustainable (Long, 2001). Caritas not only consulted with the slum dwellers but also considered their inputs and suggestions with the highest regard. As a result, the infrastructures have vastly improved living conditions of the eight UMIMCC slums. Participation of the slum dwellers deepened more when they got the opportunity to work in the construction. Slum dwellers also found an income source very close to their house and acquired skills in construction works.

Support from Government Bodies and Officials

Since various government agencies and ministries were involved in UMIMCC, I interviewed some government officials to understand how they worked with the project. It is usual to have complexities when a project has to work with two influential ministries. UMIMCC needed to

work with Khulna City Corporation (KCC) to implement infrastructure works in the slums. KCC reports to the Local Government Department (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MLGRDC). The MLGRDC is the biggest ministry of Bangladesh and is responsible for implementing thousands of projects all over the country in areas of rural and urban infrastructure development, public health, water supply, local government administrations in urban cities, Districts, Upazilas and Union Parishads (UPs). While the Department of Social Services (DSS) has responsibilities for looking after the wellbeing of slum dwellers of urban areas, and DSS is a part of the Ministry of Social Welfare (MoSW). As a result, MoSW had to be the main partnering ministry of UMIMCC since it was a project related to climate migrants. DSS was responsible for coordinating the vocational skills development component of UMIMCC with UCEP. But participants of the vocational skills trainings are climate migrants who live in numerous Khulna slums. DSS needed approval from KCC because KCC has sole authority over all the Khulna slums. MoSW was the main partnering ministry of UMIMCC in ministerial level, but KCC became the key partner in the field level. GIZ signed MOU with the MLGRDC, but GIZ had to face some difficulties in working the LGD and MLGRDC. Sanjeeb, the GIZ staff member based in Khulna, had this to say:

> In paper our main work is with DSS and MoSW, but main implementing partner is KCC because UMIMCC is implemented in urban area. KCC belongs to LGD, which is a part of the MLGRDC. Officials from the LGD or MLGRDC did not attend any meetings or workshop. They were not very interested because in paper the project was with MoSW.

Though UMIMCC did not get much support from LGD or MLGRDC, the mayor of KCC made sure UMIMCC received necessary support from KCC. While having initial disagreements with GIZ regarding payment of trainees in vocational skills component of UMIMCC, the mayor of KCC provided full support to the infrastructure development component of UMIMCC. The mayor inaugurated infrastructure works in the slums and chaired the opening ceremony when all infrastructures were declared ready for public use. The mayor felt the infrastructures would improve living conditions in the slums and he ensured KCC's full assistance for UMIMCC. KCC is one of the biggest metropolitans of Bangladesh and the mayor of KCC is a highly influential figure who has the equivalency of a state minister. Any non-cooperation from LGD or MLGRDC was offset by the mayor's full support for the project. Sanjeeb confirmed:

> The mayor has done a lot and we avoided many problems because of his power.

Image 6.15: Slum work inauguration by the mayor of Khulna City. Source: Caritas

The support from the mayor encouraged Abid, the chief planning officer (CPO) of KCC, to make a key contribution in implementing UMIMCC. He told me about his involvement in the project when I interviewed him in his office at KCC:

> I monitored UMIMCC. GIZ gave us support and I make decisions with the help of the honourable mayor and councillors of KCC. I am the focal point of the project from KCC.

Abid is also responsible for monitoring twelve ongoing development projects of the government and other NGOs and preventing overlap among projects. He is very influential in KCC and he provided key assistance to Caritas regarding slum infrastructure works. From his chair, Abid monitored UMIMCC activities in Khulna and UMIMCC stakeholders (i.e. slum dwellers, PIC, CDC, Caritas and UCEP) informed him whenever there was a complication. He explained to me how complications involving multiple government agencies are addressed:

> I faced some administrative problems from LGD because LGD was not the main government partner of UMIMCC. Since all ministries and government agencies are under one government. And since the project has business mainly with the city corporation, so there could well be inter connections between ministries and various government agencies. There are no significant problems working with DSS or MoSW.

While Abid was quite diplomatic and amenable about LGD, but another key official of KCC did not hide his frustration about LGD. He told me about his experience with LGD when I guaranteed him that I will not disclose his name or post. He said:

> LGD is not well organised and when they see an international funded project, they change their behaviour towards it. LGD does not have adequate competencies to represent themselves well in meetings with other government agencies and they do not have the capacity to deal with donor organisations.

Image 6.16: CPO of KCC in project meeting. Source: Caritas

When I was interviewing Abid, he shared many of his ideas about how to make Khulna City more liveable for its inhabitants. I noticed a pile of files on his table and I enquired why there were so many files on his table. He answered me:

> We have serious shortage of manpower at KCC and it still follows the organisational structure of 1987. But demand of services has quadrupled in thirty years and there has not been any upgrade since. The population has increased 4-5 times than in the 80s. There was no planning department in KCC. Since I have started working here from 2005, I am trying to improve things. But shortage of manpower is our biggest problem.

I could see his enthusiasm for the development of Khulna City and he would often work till 9 pm in the evening. I pressed further and asked him, you are a government employee and your job is secure. Then why you work so hard? He replied with a smile:

> It depends on the individual. If an officer only works *noyta-pachta*[33] then it would not be possible. A KCC officer must have a social commitment.

[33] *Noyta-pachta* (নয়টা-পাঁচটা) (9:00 am – 5:00 pm) refers to the working hours of a typical working day in Bangladesh.

Alike Abid, UMIMCC found enthusiastic government official at DSS Khulna. Mustafiz, the assistant director of DSS Khulna, strongly believes vocational skills trainings increase self-confidence of the trainees. His personal belief aligned with the project component of making climate migrants more skilled. He told me about the importance of having vocational skills:

> What happens when climate change is a factor, how can you help those effected by climate change? You need to ask about their present situation, what needs to be done so that they can improve their lives. It is traumatic when people get affected by climate - loss of habitat and livelihoods, loss of everything. So people need support, mental support to turn things around. If people don't know the techniques of turning things around, then they will become more vulnerable. When they get vocational skills training, their self-confidence increases. They think others have succeeded, so why can't we?

Even though DSS has its own training institute in Khulna, GIZ asked DSS to oversee training activities of UCEP. GIZ did not ask DSS to provide vocational skills training because UCEP's training centre is much better than anything DSS could offer in Khulna. However, this did not disappoint Mustafiz and he provided all necessary support to UCEP.

Image 6.17: DSS officials in project workshop. Source: GIZ

With respect to slum development projects, NGOs in Bangladesh are often criticised to work for their own priorities and organisational objectives with little or no collaboration with government ministries and agencies (Habib, 2009). Implementation and sustainability of many such development projects largely depend on how well NGOs coordinate and integrate their resources and activities with government agencies. From the beginning of UMIMCC, GIZ and Caritas secured cooperation from the mayor, councillors and officials of KCC, and officials of DSS and MoSW. Keeping mutually responsive cooperation with concerned

government agencies ensured ease of work and managing problems in a number of instances. A KCC councillor obstructed the constructions work in a slum because he wanted the work to be done by a vendor close to him. The councillor would visit the construction site and interrupt work for no apparent reason. Caritas informed this matter to Abid (the CPO of KCC) and he summoned the councillor in his office and made sure the councillor did not interrupt the work again. In addition, unlike LGD and the MLGRDC, the MoSW was very cooperative and engaged enthusiastically in UMIMCC. The project received great deal of support from high-level officials of MoSW who visited project sites regularly and provided all necessary assistance. They made sure DSS Khulna (which is under their authority) was always assisting in the implementation of the project. GIZ official in charge of UMIMCC, Xavier had this to say about working with MoSW:

> I was very impressed with an additional secretary from MoSW who went on his own behalf to the project area to see how UMIMCC was doing. I have never seen this in my career. Normally we have to invite and drag high-level government bureaucrats to show them what we are doing. Cooperation with MoSW was always like this, and it flowed down the hierarchy and DSS Khulna has been very helpful as well.

Support from Community Leaders

The contribution of Community Development Cluster (CDC) members was one of the most significant foundations of UMIMCC. CDC members acted as a communication channel for the slums and trainees with the implementing NGOs and government agencies. Over the last ten years, these CDC women have become community leaders and have gotten involved in development projects and other matters of KCC and Khulna slums. CDC members have played pivotal roles in both slum infrastructure development and vocational skills components of UMIMCC. I spoke with four members of CDC who explained to me about CDC and how they have been involved with UMIMCC. Banu has been a member of CDC for five years and she told me:

> CDC is an UNDP initiative that started in 2008, we were taken in as members in different times. We work with the poor people of an area. Each CDC group consists of 18-20 members and there are 31 CDC groups in KCC that cover 31 wards of the city.

GIZ have been collaborating with CDC from initial stages of UMIMCC. Since CDC women live in the slums and are well aware of that community, KCC advised GIZ to work with these women from the outset. GIZ officials and CDC groups work together to identify slums with higher percentage of climate migrants. CDC groups surveyed 31 wards of KCC to identify people who were effected by Cyclone Aila and people who have migrated from southern parts of Bangladesh (i.e. places like Shyamnagar Upazila discussed in Chapter Five). CDC were able to shortlist fourteen slums with higher density of climate migrants and KCC mayor and councillors picked eight from those slums. CDC women were included into PICs (Project Implementation Committee) by Caritas. PICs and Caritas worked together to determine the number and locations of toilets, women bathing rooms, drains and walkways so that infrastructures provide maximum benefits to slum dwellers. Caritas initially faced some difficulties in the infrastructure works as some local musclemen demanded money from Caritas for continuing work. This form of extortion is a common phenomenon in Bangladesh. Caritas strongly declined and notified CDC members about it. CDC members intervened and were able to dissuade the musclemen by using their influence. Though CDC provided necessary support to Caritas, they kept a close eye on the infrastructure works. Banu informed me:

> We closely monitored the infrastructure works to ensure Caritas used decent construction materials and maintained quality of the infrastructures.

Image 6.18: Author in conversation with CDC members

UCEP trainers informed me about the crucial role played by CDC members in recruiting trainees. Since prospective trainees felt little interest to participate in vocational skills training without daily allowance, UCEP trainers needed help from CDC women to have access in the slums. Nargis, the senior trainer of UCEP Khulna, reminisced the challenges in recruiting trainees:

> At first potential trainees were not interested, so we took alternative measures. We took help from CDC who have close connections with climate migrants in the slums. CDC women arranged community meetings and one-to-one conversations for us. And we were able to convince trainees that we can be trusted and we are working for their benefit.

Alif, who is UCEP's senior training instructor, supplemented:

> CDC gave us access to slum communities and without their help we would not be able to reach our trainees. CDC members took me to different slums of Khulna and arranged meetings where I talked about the importance of having vocational skills with slum dwellers. CDC groups have done a lot for the project and there would no trainees without the help of CDC women.

CDC members also assisted UCEP trainers in matching vocational skills with the interest of trainees. CDC members not only knew the trainees well but they also knew about the interests and competencies of a particular trainee. CDC never imposed any vocation or trade on trainees. Anjuman, who has been a CDC member for eight years, stressed on the importance of giving options to beneficiaries. She opined:

> If a beneficiary is forced towards a vocation or skill that he/she has no interest, he/she might attend the training. But ultimately he/she will not learn anything and is unlikely to get any work.

CDC members provided this information to UCEP trainers and UCEP was able to offer vocational skills options that trainees wanted and have employment potentials in the market. This resulted in employment for most of the trainees (686 out of 760). Out of 763 trainees enrolled in vocational skills development training, only three dropped out. Pointing me to this impressive number, Anjuman informed:

> Tailoring has been effective because it promotes self-employment. Electric and motor mechanics were good. Beautician training has been very popular because consumers do not have to go to parlours to fix their eyebrows paying 30 *taka* to the parlour and spending 30 *taka* for transport. They need to spend only 20 *taka* by paying to the graduate and get the same service. There were very few dropouts, this happened because CDC have brought trainees who are unlikely to dropout.

Sanjeeb, the GIZ staff member based in Khulna, corroborated Anjuman:

> If a trainee was absent even for a day, CDC will enquire about it after getting information from UCEP. CDC managed to convince potential trainees about the usefulness of getting vocational training even though there was no provisions for daily allowance.

Image 6.19: CDC members with UMIMCC trainees. Source: GIZ

Aside from UMIMCC, CDC members are involved with other development projects as well. A CDC member could well engage with 3-4 development projects in her area. CDC members are included in committees of various development projects and this enables CDC members to prevent overlapping or beneficiary repetition between projects. CDC members have become key development partners, and NGOs and government agencies look to include CDC members in development projects. CDC women are community leaders and everyone respects them. Tuli has been a CDC member for nine years. She told me about the changes in her life:

> I am a woman who seldom went out of the house and I had little mobility. Now people know me, respect me and summon me for different reasons. Sometimes people want me to accompany them to councillor's office. Sometime I get called by councillors to work with them and I work voluntarily.

I was stunned to learn that CDC members do not take money or other benefits from NGOs or government agencies for their hard work. I asked her why CDC members participate in development projects without any pay or return. Tuli replied:

> It is our passion. Today I took 100 *taka* from my husband and came to this meeting to talk with you. I was supposed to do some chores and cook instead I came here. I can't tell you why we do such things but it has become like an addiction. I think we might get sick if we don't volunteer. We like to do something for the people but we can't do anything with our money because we don't have much. That's why we try to do something for the community through organisations such as GIZ.

Rina, another veteran CDC member, added to Tuli:

> It feels good when people from my community get an infrastructure or a service. Often we would be welcomed when we enter a slum because CDC might have played a role in the construction of a walkway or a toilet there.

In Bangladesh, community leaders play an instrumental role in attaining national development objectives at local and grassroots levels. Community leaders are trusted locally and they are equipped with knowledge and realities of public affairs of their communities, who serve as means for communicating local needs to government institutions and development practitioners (The Asia Foundation, 2011). The importance of including civil society and traditional leaders in articulating effective strategies to meet local development needs is well documented. Increasing number of women are participating in NGO activities and local politics in rural Bangladesh. Women from affluent rural families are getting involved in NGOs to provide education and livelihood training for rural women (Lewis & Hossain, 2008b). There has been little to no research about contributions of urban women coming from less privileged background such as the CDC members in development activities. Prominent and affluent civil society members often participate in inception and design phase of development projects. However, their participation is minimal in areas of project implementation. CDC members have been involved with every stage of UMIMCC that has been immensely beneficial for the slums and trainees. Abid, the CPO of KCC, summed up the role of CDC members in UMIMCC:

> CDC has been beneficial to the needs of climate migrants. CDC members had high level of engagement with the project.

Collaboration, Learning and Respect

The salient feature of UMIMCC was the effective collaboration among project stakeholders. Being the chief coordinator of UMIMCC, GIZ made sure all stakeholders were able to apply their key expertise in the implementation of the project. GIZ formed true collaboration with the partner NGOs (Caritas and UCEP), government agencies (KCC and DSS), community leaders (CDC) and every stakeholder associated with UMIMCC. GIZ understood that UCEP was well aware of the skills demand of Khulna area and GIZ let UCEP decide which vocational skills training would be included in UMIMCC. However, the component of vocational skills development ran into complications towards the beginning of UMIMCC. The stalemate between KCC and GIZ about paying allowance to trainees could not be solved for months. Abid, the chief planning officer (CPO), informed me about GIZ's rigid stance on not paying allowance:

> GIZ does not go out of its policy. With the incident of providing travel and daily allowance for trainees, KCC contacted and written to GIZ. But it wouldn't change its stance.

The mayor of KCC was also against this decision from GIZ, and UCEP lost hope of starting the vocational skills component. KCC was justified to oppose GIZ's position of paying no allowance because majority of the trainees would not be able to attend these trainings without travel allowance and lunch money. Though GIZ wanted only interested individuals to enrol in training courses but even the most interested ones would have dropped out after a few days if they were not given travel allowance and lunch. GIZ had to make a compromise and agreed to the provisions from the mayor and UCEP with regards to lunch and transportation support respectively. Even after this, UCEP had a difficult time recruiting trainees because trainees are usually paid a daily allowance in addition to travel allowance and meal. UCEP trainers took UMIMCC as a challenge and sought the help of CDC members to communicate with potential trainees. After much struggle for two months, UCEP trainers and CDC members were able to recruit 75 interested trainees for the inaugural batch. Other than listening to KCC's advice on allowance, GIZ also heeded to a new proposal of DSS about adding an entrepreneurship training with the vocational skills component. UCEP created a batch of thirty graduates (trainees who completed vocational skills training from UMIMCC) and gave them entrepreneurial training. Experts from business and banking sectors gave entrepreneurship trainings to graduates. The trainings were mainly focused on how to start a business, how to look for finance, accounting and management. DSS gave 20,000 *taka* to

each interested graduate as a grant. Many of the graduates have utilised the grant including Kashem who have opened a motorcycle workshop in Khulna. Mustafiz, the assistant director of DSS Khulna, strongly believes in entrepreneurship trainings. He said to me:

> DSS only gave people money but did not give necessary skills. GIZ stressed on training first and teaching graduates various ways of starting a business, which gives mental strength to graduates. Giving money is not an issue for DSS and we have scope for giving money. But if we grant money in a wrong away then it will be wasted. However, if you create a scope where the money can be utilised then it will be more effective.

In case of developing basic infrastructures in slums, Caritas could have hired a vendor to complete the infrastructure works, but Caritas itself carried out all the work with the slum dwellers. I inquired to Sumon (the construction officer of Caritas) that outsourcing the work to a vendor would have saved them considerable trouble. Sumon replied to my inquiry:

> It creates a sense of ownership when you do your work and include those for whom the work is intended, instead of hiring a vendor who would have taken a substantial profit margin. So we carried out construction works through PICs and people of the slums got the opportunity to participate in the works.

Besides, if an outside vendor built the infrastructures then the vendor would have brought his/her labours. Here slum dwellers were taken in as labours and they learnt a lot about constructing such infrastructures. Robin, the regional director of Caritas, added to Sumon:

> PICs, CDC members, GIZ officials, Caritas project staff members demarcated slum-wise location of infrastructures as planned. PICs mainly carried out the construction works and we were beside them. PICs were responsible for bringing labours, checking construction materials and monitoring. Every detail about construction works was written on display boards to maintain transparency.

Caritas arranged a number of awareness raising events in the slums through drama on hygiene issues and climate change. Climate migrants living in these slums had little knowledge on hygiene matters and climate change. These initiatives were hugely popular and appreciated by them. Aleya, another dweller of the Babul Sikder Rupsha Sashan Ghat slum, told me:

> We got training in hygiene, how to use and clean toilets. We enjoyed these trainings, we have benefitted from them and we adhere to those learnings. The construction work kept us busy and we made sure nothing gets stolen because we knew these infrastructures would benefit us. I felt good as I was able to help in the development of our slum. GIZ and Caritas worked closely with us to understand what was needed in the community.

Pointing me to the quality of the new infrastructures, Banu (CDC member from the Babul Sikder Rupsha Sashan Ghat slum) said:

> UMIMCC has done something that no one has ever done in a Khulna slum- provisioning running water for the toilets. And look at the width of the walkways and drains! Construction quality has been very high. Slums dwellers have more hygienic knowledge now and they have adopted good sanitation practices.

Learning did not only occur for slum dwellers but Caritas was also able to acquire skills of working in slum environment. Gomez, the administrative officer of Caritas Khulna, told me about his experience working in the slums. He said:

> At first we were unsure because we never done infrastructure works in Khulna slums before. CDC members introduced us to slum dwellers. We called community meetings, told slum dwellers about our plans, invited them to provide service in the form of labour and take responsibilities. GIZ instructed us to involve slum communities in all aspects of infrastructure development. We did so and the results were fantastic.

Gomez also told me about current state of the UMIMCC slums:

> Slums now have proper drainage system that carries out water and keeps slums dry and clean. There are no bad smells in the slums because of the toilets. Communication in slums has improved thanks to concrete walkways.

Image 6.20: Drain and walkway in a project slum after almost a year of construction

GIZ developed a true partnership with CDC through this project. They volunteered for the project because GIZ gave proper respect and authority to CDC members. Referring to the working relationship with CDC, Sanjeeb (GIZ official based in Khulna) said to me:

> GIZ and Caritas got introduced in the slums by CDC members. We could not pay them money but we gave them a lot of respect.

CDC member Tuli agreed with Sanjeeb:

> We were not paid but GIZ treated us like equal partners and our inputs were taken into consideration.

Sanjeeb seconded Tuli:

> Our views and opinions are secondary because we are outsiders, but opinions of CDC must be taken into consideration because they know the realities of the community. We told CDC members – this is your work, you are the leader and you have to monitor the work quality because you will use it.

CDC members reciprocated by recruiting genuinely interested trainees and identifying slums with higher density of climate migrants. KCC official Abid praised the role of CDC members by saying:

> There will be no 100% accuracy, it is impossible. We accept the inputs we receive from grassroots through CDC. Till now CDC has been very effective. They are closely involved with UMIMCC beneficiaries and are well aware of actual needs of climate migrants.

KCC gave CDC a free office space where CDC members hold meetings and maintain communication with various development organisations. I conducted my interview with the CDC members in that particular office. KCC provides substantial support to CDC members and CDC members have earned that support through their work. CDC members are community leaders and they want to improve the lives of community members. By making slums more liveable and helping slum dwellers in gaining employment, CDC members are increasing their influence and becoming bigger leaders in the community.

Image 6.21: Fully functional toilet in a project slum after almost a year of construction

Many government organisations (GO) and NGOs have undertaken Slum Improvement Programmes (SIPs) in major Bangladeshi cities. However, maintenance of newly developed slim infrastructures are rarely given any importance by such programmes and projects (Siddique, Alam, Rahman, Rahman, & Jahan, 2002). Within a year of construction, these slum infrastructures become dysfunctional due to lack of repair and proper maintenance. GIZ was well aware of this phenomenon and took necessary steps to ensure slum infrastructures built under UMIMCC remain functional for the slum dwellers. From the beginning of UMIMCC, GIZ assumed that the project ultimately belongs to KCC and they encouraged KCC to take over the role of monitoring. Sanjeeb informed me:

> We believe that it is a project of KCC instead of GIZ's. It is logical that the project was being monitored by KCC since it has more influence in the area than any other government agencies or NGOs. It also helped KCC to assume ownership of UMIMCC. GIZ and other NGOs are just a development partners, the project, for all intents and purposes belongs to KCC.

KCC's engagement with UMIMCC was crucial because KCC is in charge of all Khulna slums and they have engineers and technicians who can undertake repair and maintenance of

slum infrastructures when needed. In addition, Caritas selected volunteers from the slums dwellers and trained them to maintain the walkways, toilets and other slum infrastructures. Caritas transformed the PICs (project implementation committees) to IMCs (infrastructure management committees) and made them responsible to look after newly constructed and repaired infrastructures of the UMIMCC slums. Caritas have handed over the UMIMCC slums to KCC and IMCs after the construction completed in October 2017.

Image 6.22: A slum dweller showing the slum environment to Author

Ending Discussion

It is typical for a development project such as UMIMCC to run for 3 years. Because of the overwhelming success of UMIMCC, it was extended in the form of a five-year (January 2018-December 2022) Urban Management of Migration and Livelihood (UMML) project. UMML (also referred to as UMIMCC phase 2) received funding for fifteen million euros and is implemented in five cities of Bangladesh (Neupert, 2018). UMML is a bigger project than UMIMCC but it will not build any slum infrastructures and will focus solely on diversifying livelihood opportunities for climate migrants and host communities. There has been no funds allocated in the UMML project to maintain the slum infrastructures built by UMIMCC. I visited the Babul Sikder Rupsha Sashan Ghat slum in August 2018. Caritas handed over the infrastructures in October 2017 and UMIMCC officially ended in December 2017. During my visit to the UMIMCC slum, I found all toilets, woman-bathing rooms, walkways and drain lines to be fully functional. Thirty families were using five toilets, two woman-bathing rooms, two tube-wells, walkways and drain lines (340 square metre and 145 metre respectively). The fully functioning infrastructures were a testament of the honest work by the slum dwellers. Caritas trained the slum dwellers in maintenance and they work together to repair infrastructures when they malfunction. Professional and committed trainers of UCEP

provided quality vocational skills trainings to highly motivated trainees. Majority of the trainees were able to gain employment or increase earning despite the short length of the training courses. Trainees, UCEP trainers, CDC members, DSS and KCC officials and GIZ staff members acknowledged that 45 days or six weeks long training does not meet required standards and the training duration should be extended.

Both the components of UMIMCC, slum infrastructure development and vocational skills training, received a great deal of support from CDC members who did not charge a single penny for all their contribution. GIZ established effective communication channels among project stakeholders so that impending issues could be communicated and resolved. GIZ officials located in Khulna and Dhaka, maintained close contact with all UMIMCC stakeholders. 'Empower the people' was GIZ's core value for executing UMIMCC and it insisted the infusion of this value in everyone associated with the project. GIZ, Caritas and UCEP were hugely supported by the concerned government agencies. Many NGOs work in slums of Khulna and they need to earn trust of the slum dwellers to implement their projects. Close involvement of KCC and DSS with UMIMCC gave the project an added layer of legitimacy and the slum dwellers and trainees participated in the project without any unease. Combined with the cooperation from the mayor of Khulna City and from high-level officials from MoSW, DSS Khulna and KCC worked together to successfully carry out UMIMCC.

The project directly contributed in achieving Sustainable Development Goals (SDGs) 1, 11 and 13 (Morton et al., 2017). It contributed to SDG 1 (No Poverty) by training poor people in various livelihood to create income opportunities and increase earnings. By building and repairing crucial urban slum infrastructures, UMIMCC contributed to SDG 11 (Sustainable Cities and Communities). The project's vocational skills offered various livelihood prospects to climate migrants and slum infrastructures provided better living conditions for them, thus contributing to SDG 13 (Climate Action). The project did not address all the complications faced by the climate migrants of eight project slums, it was not designed to do so either. There are two hundred and seventy eight slums in Khulna City. The UMIMCC project covered only eight of them. Within that narrow scope, UMIMCC was implemented in a cohesive manner with government and non-government partners to attain noteworthy outcomes for the slum dwellers and graduates of vocational training.

Chapter 7: SHOUHARDO III

SHOUHARDO III at a Glance

Twenty two organisations came together to form CARE to supply lifesaving CARE packages for World War II survivors. Today, CARE International has transformed itself into a global humanitarian organisation tackling poverty. The organisation puts women in the centre of its efforts in promoting economic opportunities, improving basic education, preventing HIV, furthering access to clean water and sanitation and conserving natural resources (CARE, 2013). From 1949, prior to Bangladesh's independence in 1971, CARE's activities chiefly focused on disaster relief, school and pre-school feeding. Since the independence of Bangladesh, CARE Bangladesh expanded its focus to livelihood and food security, climate change adaptation, health and nutrition, women's empowerment, reducing violence against women, agriculture and natural resources, strengthening civil society and disaster risk reduction. Currently, CARE Bangladesh is implementing 35 development projects with 36 partner Non-Governmental Organisations (NGOs) that endeavour for improving food security, supporting resilient livelihood, promoting women empowerment, fostering children health and assisting in adaption to climate change (CARE Bangladesh, 2018). The objective of this PhD is to answer the following research question: what are the factors that lead to successful development projects for marginalised communities affected by climate change in Bangladesh? Chapter Five looked in a development project implemented in south-western coast of Bangladesh, while Chapter Six exhibited a development project executed in the urban city of Khulna.

This chapter focuses on one of CARE Bangladesh's 35 ongoing development projects that is titled 'Strengthening Household Ability to Respond to Development Opportunities 3' or referred to as the SHOUHARDO III project. This project got 80 million USD funding from the United States Agency for International Development (USAID) and additional contributory funding of 8 million USD from the Government of Bangladesh. Designed from the experience of SHOUHARDO I and SHOUHARDO II, the project is being implemented between 29th September 2015 to 28th September 2020 in 8 Districts of Bangladesh (CARE Bangladesh, 2015). Implemented across 947 villages of north and north-eastern regions of the country, SHOUHARDO III supports 168,500 poor and extremely poor households in areas of agriculture and livelihood promotion, health hygiene nutrition, resilience, women's

empowerment and responsive governance. The project pursues the following purposes: a) encouraging income generating activities (IGAs) for men and women through providing technical assistance for on-farm, off-farm and non-farm livelihoods, b) improving health and nutritional status of pregnant and lactating women and children under the age of five, c) improving capacity of individuals, households, communities to adapt and recover from natural and manmade hazards, d) empowering women with regards to accessing household resources, dignity and equality and e) making local elected bodies more responsive and accessible to poor and extreme poor families (Mwasaa, 2017). To achieve the above overarching purposes, CARE Bangladesh is implementing SHOUHARDO III in partnership with six local partner NGOs across 8 districts who carry out the project in field level. These partner NGOs were chosen for their technical expertise, experience and presence in targeted districts.

CARE entrusted Eco-Social Development Organisation (ESDO) to implement SHOUHARDO III in Jamalpur District. ESDO started its journey in 1988 with the objective of attaining holistic development in rural Bangladesh with a focus on livelihoods and skill development, health and nutrition, growth monitoring of children, immunisation, water and sanitation, education, kitchen gardening and arsenic mitigation (ESDO, 2019). ESDO has implemented various development projects in 2231 Union Parishads (UPs), 272 Upazilas (Sub-Districts) under 49 Districts, 7 City Corporations. Thus, directly reaching 8.46 million poor and vulnerable people across Bangladesh. Since the past three decades, ESDO has been striving to bring forth optimum development for marginalised communities of the country. The organisation has often adapted to changing situations to provide time-fitting services (ESDO, 2020). Headquartered in Thakurgaon District and having 281 regional offices, ESDO has implemented numerous development projects for the most marginalised people through various service delivery initiatives (ESDO, 2019). As a recognition of its work, ESDO was recently awarded with the prestigious ‘Mahatma Award for Social Good 2019 for Social Development’, an award given for exhibiting extraordinary ethical conduct and social responsibility. With regards to SHOUHARDO III in Jamalpur District, ESDO implements the project in Islampur and Baksiganj Upazilas covering 9 UPs, 70 villages and 17,222 households.

I conducted my fieldwork in Islampur Upazila located in Jamalpur District in February of 2019 (figure 7.1). Islampur Upazila is highly vulnerable to floods and riverbank erosion. But combined with fertile land and very good road communication with Jamalpur District and

neighbouring Upazilas, people of Islampur Upazila face less environment challenges imposed by climate change compared to people in Shyamnagar Upazila (discussed in Chapter Five), people in *char* areas of Kurigram and Rangpur Districts, and people in *haor* areas of Sunamganj District (discussed together in Chapter Four). ESDO has an office in Islampur Upazila that is solely responsible for carrying out SHOUHARDO III and staff members maintain very close and cordial working relations with relevant local government agencies and Islampur Sadar UP. The project receives significant assistance from experts and officers of the local Department of Agricultural Extension (DAE) and Department of Livestock Services (DLS). During my fieldwork, I conducted interviews with project beneficiaries, ESDO and CARE staff members, people's elected representatives, officers and trainers of DAE and DLS. The majority of the project fund (about 50%) has been allotted so that beneficiaries can earn more by improving livelihoods, but I found the project to be equally successful in sensitising rural communities with regards to health awareness, building key linkages, representation and women empowerment. Below I have presented the attributes that have made SHOUHARDO III immensely helpful for its beneficiaries.

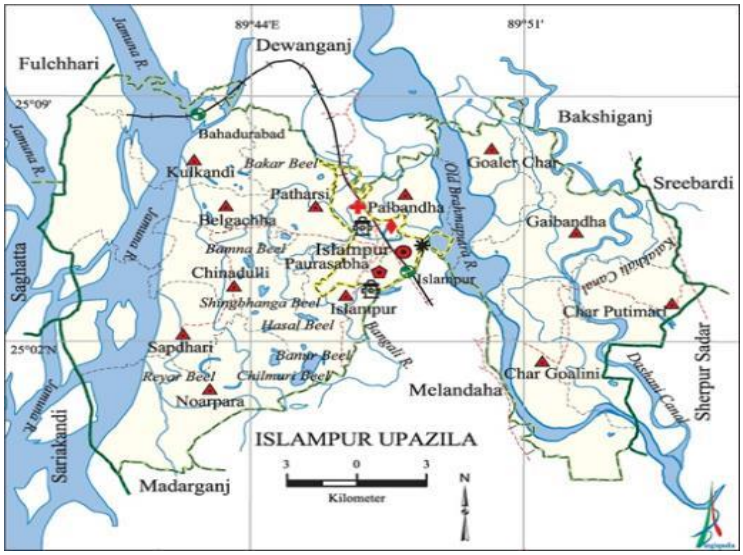

Figure 7.1: Location of SHOUHARDO III project

Source: http://en.banglapedia.org/index.php?title=Islampur_Upazila

Promoting Suitable and Profitable Livelihoods

Supplementing income generating activities (IGAs) through on-farm, off-farm and non-farm livelihoods is the biggest component of SHOUHARDO III. Beneficiaries have been provided support in agriculture including field crops and vegetables, rearing livestock, fish capture and culture, comprehensive homestead development (CHD) and other non-farm occupations in

business and trade. The project offered a whole host of livelihood options to beneficiaries and nothing was forced upon them. Beneficiaries selected their preferred livelihood and the project provided necessary support to build their capacity. Mokarram, CARE staff member responsible for monitoring the project in Islampur Upazila, had this to say:

> I will tell you how beneficiaries are willingly accepting new technologies. Some beneficiaries have farmed goats or have been farmers from before. It is not like that we are going there and telling them to start a venture that is completely new to them. We offer them various categories of livelihood options after making thorough assessment. We have offered suitable livelihood options, though improved and latest, to farmers who work on the field so that he/she has some previous experience. Likewise we are offering further goat rearing support to those who have experience in goat rearing. We are just making their trade more up to date.

Luckily for the inhabitants of Islampur Upazila, this area does not have any salinisation problem and there was no flood in 2018 and the inhabitants were able to take full advantage. People often show enthusiasm in goat rearing and agriculture but lose all interest when goats die from disease or crops get damaged by insects or weather hazards. SHOUHARDO III has been able to generate renewed interests among beneficiaries by drastically lowering goat mortality, offering farmers improved techniques to fight insects and promoting climate-suited crop varieties and cropping pattern. Anowar, the ESDO staff member in-charge of implementing the project in Islampur Upazila, gave me a thorough idea about beneficiary selection process. The project only supported poor and extremely poor (PEP) households[34] and contributed noteworthy improvement in their financial state. Towards the beginning of the project, CARE and ESDO discussed with Islampur Upazila to determine which Union Parishads (UPs) will be included. From the selected UPs, they then categorised all villages into three groups based on their degree of vulnerability to climate change – moderate vulnerability, high vulnerability and extremely high vulnerability. Only villages with extremely high vulnerability were selected. ESDO staff members then took the help of villagers of those selected villages and respective UP members to classify all households. Villagers and UP members classified all households based on a well-being analysis criteria developed by ESDO and came up with rich, middle class, lower-middle class, poor and

[34] (PEP) households: Poor and extremely poor households

extremely poor households. Anowar was very satisfied with this type of participatory and open beneficiary selection process. He told me:

> Who will be considered as P (poor) and who will be considered as EP (extreme poor) were selected by the villagers and UP members. We thought it would be better to include all PEP households from a particular village with extremely high vulnerability to climate change. As a result, we had to drop few villages who were eligible to be in the project but had less PEP households. Once all PEP households were selected, we started working with them and will continue to work with them for the entire lifespan of the project. So, each household is supported for five years.

After selecting beneficiary households, the majority of NGOs would have jumped into implementation at field level. But ESDO decided to work with the mind-set of beneficiaries before commencing field level activities. ESDO and CARE stressed on improving goat farming since Islampur Upazila has considerable grazing land for goats and many beneficiary households had experience in goat farming. Instead of farming goats traditionally, beneficiaries were provided training on improved technologies and practices while nudged towards a business-like approach. Untimely death of goats due to diseases is a huge problem for all goat owners in Bangladesh. Considered as the poor man's cow, goats are particularly vulnerable to Peste des petits ruminants (PPR) disease or goat plague or stomatitis pneumoenteritis syndrome which is caused by morbilli virus of the paramyxoviridae, having morbidity and mortality rates of respectively 80-90% and 40-80% (Rahman, Hossain, Ahsan, Khokon, & Kibria, 2011). A study on goat husbandry from the Southern region of Bangladesh found PPR as the most common disease for goats at 32%, while only 49% of the goat owners used PPR vaccination (M. Hossain, Akhtar, Hossain, Choudhury, & Islam, 2015). With the help from Department of Livestock Services (DLS), SHOUHARDO III has been very successful in reducing untimely death of goats by ensuring timely vaccination and keeping goats on raised platforms. In addition, majority of the beneficiaries (above 60%) have been able to buy a cow by selling goats and investing additional funds. Goat farming has played a pivotal role in creating employment for rural Bangladeshi women. With regards to their investment, farmers are seen to make 50% net profit within a year. Increased earnings from goat rearing has made a positive impact on food purchase, education, health care and housing of farmers (Faruque et al., 2016). Jui, a mother of two children, received cash and technical support from the project in goat farming. She told me:

At the beginning, ESDO gave me 3000 *taka* to buy a goat and I added additional 2000 *taka* to buy a mature goat. And when that goat gave birth to couple of babies, I sold them for 1500 *taka* each. Now I have three mature goats. I sold few of my goats during the Eid of 2017 and the market price was quite good. After selling the goats and adding some money from personal savings, I was able to buy a cow. That cow now gives three litres of milk each day of which I sell two litres and keep one litre for own consumption. My condition has improved considerably in every aspects of life. I lost many of my livestock at the hand of diseases. It does not happen anymore so it is beneficial for us. I provide regular vaccination for the livestock that have reduced vulnerability to diseases. This a real benefit for my family.

Image 7.1: Goats owned by Jui

Image 7.2: Jui keeps the goats on a raised platform

In earlier times, farmers used to believe it is all god's will and they came into terms with that. They had little ideas about how climate change impacts crop production. With regards to field crops, ESDO employed CARE's toolkit which is known as Farmers' Field and Business Schools (FFBS), to encourage beneficiaries to consider agriculture as a business and putting them at the centre of agricultural decision-making and new agricultural practices. Farmers of Islampur Upazila are used to cultivating paddy in huge proportions and they particularly cultivated Boro 28[35] because it was a high yielding variety. But this variety became

[35] Boro 28 (ব্রি ধান ২৮): BRRI dhan28 is a *Boro* variety that has been slowly abandoned by farmers of Bangladesh

worryingly vulnerable to blast disease[36]. Afzal, ESDO's technical coordinator for livelihood, said:

> Blast disease is very harmful for Boro 28 production. It reduces production from 25-30 *maund* to 10-12 *maund* per *bigha*. Farmers have received a new variety of paddy from the government recently, which is called Boro 58[37]. This particular variety is far less vulnerable to blast and it has been developed as a substitute for Boro 28. Similarly, there was a famous Jamalpur variety of paddy named *Gainza*[38] paddy, the rice was very tasty and it was easy to cultivate. The production of *Gainza* paddy was very good in earlier times but it is not the case anymore. Yield of this variety of paddy was related with the climate and the current climate is no longer suitable. So we encouraged our beneficiary households to grow Boro 58, corn, onions, chili and vegetables instead.

Image 7.3 & 7.4: Beneficiaries are taking more interest in cultivating corn (left) and vegetables (right)

Towards the beginning of SHOUHARDO III, ESDO held meetings with 20-22 beneficiaries to conduct community risk assessment (CRA) sessions. In these sessions, beneficiaries and ESDO staff members discussed and debated all possible threats to farming activities from climate change, insects, seed availability, market price and emerging opportunities. Most beneficiary households had this belief that they must cultivate paddy and nothing can substitute paddy. But these CRA sessions have managed to convince them that they can also

[36] Magnaporthe grisea or rice blast fungus. Commonly known as blast disease, a plant-pathogenic fungus that is very harmful to rice, wheat, barley, rye and pearl millet

[37] Boro 58 (ব্রি ধান ৫৮): BRRI dhan58 is a *Boro* variety that has become quite popular for higher yield

[38] *Gainza* paddy (গাইঞ্জা ধান): A popular traditional paddy variety in Bangladesh that has become less common in recent times

cultivate corn and make good profit. The project provided eleven extensive training sessions to farmers who showed interests in producing corn. Aside corn, beneficiaries were encouraged to focus more on growing vegetables and other spice crops (i.e. onions and chili). Previously, they only grew vegetable in their yards to meet consumption needs. Now they are growing vegetables with a commercial point of view. And the results have been very impressive. I spoke with Afroza, whose husband works at Karwan Bazar in Dhaka. Besides being a full-time mother of three children, Afroza has transformed herself into an expert farmer:

> I look after the family and maintain the crops. I used 10 decimals of land to cultivate corn last year. I get three crops when we get affected by floods, otherwise we get four crops per year. Last year I cultivated corn, then paddy, then onions and some chilies after that. I cultivated chilies with onions. I got good price on the onions that were harvested earlier and less money for those harvested later. I usually provide all manual labour in the field but I also hire labourers when needed.

Image 7.5: Afroza next to her chili field

Climate change, weather issues and market demands are now actively considered by beneficiary farmers while selecting or discarding a particular crop. They have considerably reduced cultivating paddy and expanded to producing corn and spice crops. Many farmers now cultivate paddy for self-consumption and focus on other crops to make profit. An increasing population with changing food habits, Bangladesh is experiencing increased food

consumption. In terms of human consumption in the country, corn is only behind rice and wheat in the food chain, while it is a vital ingredient in food baking and producing fodder for livestock. Although, land usage for corn production has increased from 72,000 acres in FY 2003-2004 to 804,000 acres in FY 2014-2015, demand for corn is increasing everyday (Uddin, Hossain, & Hasnain, 2017). Moreover, spice crops production has increased six folds in previous two decades lowering imports from overseas. According to Ministry of Agriculture, yearly production of major spices (i.e. onions, garlic, ginger, turmeric, chili and coriander) has now risen to 1,800,000 tonnes per year from a mere 308,000 tonnes per year in 1996. Yet, Bangladesh has to import around 1,400,000 tonnes of spices each year to meet local demand of which onions alone counts for 500,000 tonnes (Molla, 2016). Minu, a beneficiary of SHOUHARDO III, told me how she approaches farming now:

> I planted paddy last season but I have incurred huge losses because they were attacked by insects. I planted some paddy and some corn this year. I have cultivated paddy where no other crops can be cultivated and it is only for our consumption. Last year I made most of my money in onions and chilies. I invested 29,000 *taka* and sold my crops for 63,000 *taka* only from onions and chilies.

Islampur Upazila was not known for producing corn and spice crops four years ago. ESDO motivated the farmers to produce corn and spice crops. They encouraged farmers to cultivate chilies and onions wherever possible (i.e. fields, yards, unused land around the house), while encouraging farmers in corn production by comparing cost-benefit analysis with paddy. In the beginning, farmers were quite hesitant to invest in corn and only 10% of the project's farmers cultivated corn in year 1. But it became very popular with time, now majority of the farmers cultivate more corn in their land. In case of spice crops such as onions and chilies, farmers embraced these crops instantly because of notable profit margins.

Providing Farmers with Seed and Marketing Support

According to an International Food Policy Research Institute (IFPRI) report (Jaim & Akter, 2012), Green Revolution (GR) technologies, a combination of seed, fertiliser and irrigation technology, play a major role in growing agricultural production in Bangladesh. Seed is the primary unit of all agricultural activities, though in terms of demand for quality seed, supply is inadequate in Bangladesh. In 2007-2008, only 118,500 metric tonnes of quality rice seed were supplied against a demand of 306,840 metric tonnes. While only 55% of quality seed

was supplied against the national demand for wheat. Only in case of corn, supply of quality seed meet the national demand (100%). Rahman, Zhou, Barua, Farid, and Tahira (2020) credited the usage of better seeds and technologies for increasing vegetable production in Bangladesh in recent years. However, their study covering five Upazilas of Sylhet District (p.7), found that farmers faced medium (44%) to high (53%) challenges in obtaining quality seeds. SHOUHARDO III intended to ensure availability of quality seeds for beneficiaries. However, the project does not enrol mid-income, upper-mid income and high income households that generally have substantial land ownership. All project households are either poor or extreme poor (PEP) and these households usually own between 10-20 decimals of farmland and a homestead. So, besides ensuring the availability of quality seeds, ESDO and CARE staff members also needed to address the issue of seed requirement quantity of beneficiary households. Reshma, an ESDO fieldworker, explained:

> Our farmers need small amounts of seed for farmland and homestead plantation and it is not viable to travel all the way to Islampur market to buy such small quantity. Besides, farmers would often end up buying low quality loose seeds from the market. We went into an understanding with a seed company after getting an idea of how much seed is required by our beneficiaries. The seed company started to market seeds in small quantities in minipacks specifically targeting our beneficiaries and similar households. The company started to supply the seeds to dealers at upazila level. The upazila dealers fixed some small retailers at village level and our beneficiaries were able to buy quality seeds from local retailers.

Various kinds of seeds are sold in small quantities that come in small minipacks. For example, the price of one minipack of seeds is 10 *taka* which can be purchased from the local retailer and farmers do not have to spend 30 *taka* on transportation. Every project village now has a seed retailer and beneficiaries go to the store and purchase seeds according to requirement. Project beneficiaries own small quantities of land and they require small quantities of seeds (i.e. five or ten seeds are enough for one pit). Beneficiaries are able to save money since they no longer have to buy conventional seed packets containing 40-100 seeds. They can easily buy these minipacks of quality seeds and they can buy as many packs and varieties as they want. Initially the seed company asked for a quotation stating demand for seeds from CARE. But CARE refused to provide any such quotation and asked the company to work with the upazila dealers to determine the demand. It was done to mobilise the

company, upazila dealers and local retailers because CARE wanted them to understand the market demand for seeds and develop this capability of understanding markets efficiently. Such capabilities are very likely to provide long-term benefits for the area even after SHOUHARDO III phases out.

Hoque, Afrin, Dewan, Akter, and Nazim (2018) showed that vegetable producers of Savar Upazila and Keraniganj Upazila received less than 50% of the price paid by the consumer. While both upazilas are very close to the capital city. They noted that farmers only got 47.46%, 33.43% and 38.52% respectively for eggplant, tomato and cauliflower out of the consumer price. Islampur Upazila is much further away from any major city. Vegetable farmers of this area receive much less of the consumer price compared to farmers of Savar and Keraniganj. Afzal, ESDO's technical coordinator, was aware of this situation and came up with an idea to start makeshift bazars or markets in project villages. Since project beneficiaries started to have impressive harvest of vegetables and crops, Afzal thought about organising the beneficiary farmers in group approach by selecting a location in each project village where beneficiaries can bring their produce to sell. This idea was not in the original DIP (detailed implementation plan) of SHOUHARDO III. Afzal discussed this issue with CARE staff members and was able to make them understand that it was an important issue. CARE staff members were impressed and permitted ESDO to go ahead with the initiative. Afzal explained the idea behind makeshift bazars in detail:

> Some may have couple of gourds, one kilo of beans, or one kilo of okra or two kilos of black-eyed peas. But you cannot go to a market to sell these small quantities of vegetables. And most of the males of this area go to town or big cities for work and it is not worthwhile for them to take one kilo vegetable to the market because the profit will not offset the wage of a day's work. So we convinced women of our beneficiary households to start small bazars in their area where they would be able to sell their produce. We went ahead to set up such small bazars in each of our project village. Beneficiaries of SHOUHARDO III as well as non-beneficiaries can sell their produce in these bazars.

I probed him more and asked him, OK you started your bazars. But who buys all these vegetables and crops? Afzal replied:

> In each project village, we employed some young enthusiast villagers as volunteers and we formed village development committee (VDC)[39] that consists of SHOUHARDO beneficiaries from project villages. We engaged our beneficiaries, staff members and VDC members together and they started by inviting 7-8 local retailers and vegetable vendors on the day of the bazar. Our farmers were able to sell their produce at a competitive price. Later, we started to invite wholesalers in case of large amounts of vegetables and crop sale. Retailers and wholesalers buy the produce from these small bazars and sell them in Islampur and other city markets. A healthy competition was triggered among the farmers when they started to sell their produce side by side. This competition has made farmers more interested in producing more vegetables and crops and they now actively inquire about schedules of the bazars. We have made arrangements for both small and large farmers so that they can easily sell their produce.

They call this arrangement as group approach vegetable sell and ESDO staff members consider it as a huge success because it was not included in the original DIP (detailed implementation plan) of SHOUHARDO III. After seeing its usefulness, CARE updated the project's DIP to include this idea of group approach vegetable sell. Asma, a project beneficiary who mostly produce vegetables, told me how she utilises the makeshift bazar:

> We are selling our produce and we have come up with a bazar from our own initiative. All beneficiaries and farmers bring their vegetables and crops in a designated house of the village. We sell our goods there and get the money in our hands. This is very beneficial for us. When we relied on vendors to sell our goods, we had to give them a cut from the selling price. But now we are getting all our money because of our bazar. I grow different seasonal vegetables. We eat the vegetables and sell when we have more. Yesterday I sold five bottle gourds and got 100 *taka* for them. But it would not be commercially sound if I transport only those five bottle gourds to Islampur market because the transportation cost per gourd would be too high. I get around 600-700 *taka* when I sell about forty of them in our bazar.

[39] Formation and activities of VDC will be detailed later in the chapter

There are some unique advantages for such village markets. A village will always have sellers, buyers, retailers and even small wholesalers. It is easy for them to attend these markets that are located in close proximity. Farmers are bringing in their produce in these markets and they are trading with the buyers with ease. With respect to buyers, they benefit as well since they are able to source fresh vegetables and crops directly from the producer.

DAE officials work closely with the farmers of the project. I asked Anis, DAE's deputy assistant agricultural officer responsible for Goaler Char UP, whether these makeshift bazars have been effective or not. He answered:

> These bazars are linking famers with the market. I can tell you about a village in my Union Parishad. A location has been selected where farmers bring all their vegetables. From there they sell their produce and buyers send those to Dhaka on trucks. This has reduced the monopoly of the intermediaries.

Linking Project Beneficiaries with Government Extension Offices

SHOUHARDO III has made impressive contributions with regards to seed sourcing and augmenting farmers' income by linking them with markets. But a lot has been done to make beneficiaries more efficient in farming and agricultural activities that have led to increased production of vegetables and crops while decreasing morbidity and mortality rates of livestock. The Department of Agricultural Extension (DAE), under the Ministry of Agriculture, is responsible for disseminating techniques, ideas and information among Bangladeshi farmers with an objective to increase their agricultural efficiency, production and income. It is well documented that DAE has not been able to provide the service required by the farmers. The overall service provided by DAE is not satisfactory and DAE field-level officials seldom maintain contact with farmers. As a result, farmers are often deprived of crucial extension services that are vital for their livelihood (T. Ahmed, 2012; Debnath, Rafiq, Khatun, Nandi, & Nandi, 2018). On the other hand, growth in the livestock sub-sector has outpaced the growth in crops and fisheries sub-sectors in Bangladesh. Urban population growth and increased income has doubled the demand for livestock and livestock related products in fifteen years. This has presented the livestock owners, both large and small-holder, with a tremendous opportunity to grow their business. Livestock development depends largely on the availability of nutritious feed, veterinary and vaccination services and technological support. For this the livestock owners are dependent on the Department of Livestock Services (DLS), under the Ministry of Fisheries and Livestock. The service

provided by DLS has been substandard and its existing organisation setup and policies are not geared up to meet the demands of livestock owners across Bangladesh (Uddin, Huylenbroeck, Hagedorn, Sultana, & Peters, 2010).

Image 7.6: Author in conversation with DAE officials

SHOUHARDO III beneficiaries, who are either farmers or livestock owners, are entitled to receive all necessary support and extension services from government agencies such as DAE and DLS. Farmers of SHOUHARDO III are ultimately responsibilities of the local DAE office and that office is supposed to assist the farmers in all matters related to agriculture. Similarly, all support related to goat and other livestock rearing should be provided by the local DLS office. In reality, these government extension agencies do not have adequate manpower or necessary resources to provide all needed services. The project creates linkages between beneficiary households and these agencies through organising events such as vaccination camps for DLS officials or agricultural training sessions for DAE officials. SHOUHARDO III is basically creating a demand for vaccination services, agricultural training sessions, consultation and learning through its beneficiaries and assisting these government agencies in delivering essential services at grassroots level. Farmers and livestock owners of the project are introduced with new and improved farming technologies and livestock rearing technologies respectively by DAE's deputy assistant agriculture officers and DLS's community extension agents. Working in the field-level, these government officials maintain close contact with farmers and livestock owners. ESDO invites them to beneficiary meetings and they demonstrate new technologies and encourage beneficiaries to learn and apply them. Usually these meetings last for at least an hour and the officials communicate all key issues of farming a particular crop, vegetable or livestock. The officials

are not paid any fee or remuneration for conducting training sessions and demonstration but they receive a nominal travel and daily allowance from the project. ESDO has made it mandatory for project beneficiaries to attend these meetings where they can have their say, seek advice and learn how to implement new technologies successfully. As a result, application of new technologies has spread rapidly among project farmers and livestock owners. The project is also getting advantages through its close ties with these offices. Anowar, project in-charge for ESDO, gave the following explanation:

> Farmers and livestock owners do not hesitate much when we offer them improved technologies that have been there for some time. But they are often hesitant to apply new technologies such as new seed variety or new feed for animals. In such cases, we take the help of DAE and DLS officials since their advices and guidelines carry more weight than that of ESDO's fieldworkers. We have also developed strong communication channels between our beneficiaries with DAE and DLS officials.

DAE officials have to meet various targets such as providing training and demonstrations to specified number of farmers, making farmers use environmentally friendly fertiliser and insecticides, ensuring targeted volume of production of different crops and vegetables. Likewise, DLS officials have to vaccinate targeted number of livestock in their respective areas, reduce livestock morbidity and mortality rate and increase production of meat and milk. Partnership with SHOUHARDO III has proven to be very helpful for both DAE and DLS officials. Kofil, DAE's deputy assistant agricultural officer responsible for Polobandha UP, detailed how DAE and ESDO are working together:

> SHOUHARDO III officially started three years ago when ESDO organised a three day training for us in Jamalpur. After completing that training, I realised that our work and their work are quite similar. We are providing various services to farmers from the government side, though it is quite common for government activities to suffer from laxity. We would often hold two meetings per week for SHOUHARDO III beneficiaries. But as far as I have seen in the activities of ESDO's fieldworkers, they go to each doorstep of their beneficiaries and repeat our advice and guidelines. They are able to maintain closer contact with the beneficiary households since they live in the

> communities. This GO[40] and NGO partnership has been quite effective to improve agricultural outcomes in the Union Parishads covered by the project.

I asked Taslima, an ESDO fieldworker, about their collaboration with DAE officials. She explained:

> I live in a village and every day I talk with villagers who are beneficiaries of SHOUHARDO. DAE officials inform me couple of days before their visit to the village. I organise thirty or forty people both beneficiaries and non-beneficiaries and select a house for the meeting. This way a DAE official can consult with large groups of people in one place and there is no need to go to each farmer's house. This way we can meet our target of reaching farmers and so do DAE officials.

Image 7.7: ESDO fieldworker Taslima (middle)

This activity of reaching farmers is paying dividends. For an example, Islampur Upazila was renowned for producing huge amounts of wheat. Thirty three decimals of land is considered to be one *bigha* in this area and farmers used to harvest at least 8-12 *maund* of wheat from one *bigha* land. Each *maund* of wheat can be sold for 800 *taka* and farmers could easily make 10,000 *taka* by cultivating wheat in one *bigha* land. On the other hand, cultivation of vegetables demands more physical labour and more expenditure in terms of fertiliser and insecticides but farmers can easily make a profit of 20,000-25,000 *taka* from one *bigha* land

[40] GO or government organisations. In the context of this statement, it refers to the Department of Agricultural Extension (DAE)

by cultivating vegetables. Though profitability is less in producing wheat compared to vegetables, there are some advantages in wheat production. Producing wheat is very easy as wheat will simply grow if a farmer only drops seed in the land and applies some fertiliser. However, like some paddy varieties, wheat is highly vulnerable to blast disease. DAE officials have been successful in persuading farmers to stop wheat production and focus more on producing vegetables. They have also convinced farmers to implement crop rotation for reducing vulnerability of crops to changing climate, maintaining soil quality and increasing production. Speaking of this enhanced outreach with farmers, Jahirul, DAE's deputy assistant agricultural officer responsible for Kulkandi UP, elaborated:

> Communication has increased 100%! Each day we would receive 10-12 phone calls from SHOUHARDO farmers alone. But before, they would never call us or listen to what we had to say or teach. We have made farmers use a pheromone trap technology for cultivating vegetables. We have been able to produce safe vegetables by using pheromone trap, without the use of any insecticides. Farmers have also been able to reduce production cost by not using insecticides. Previously, farmers would plant corn haphazardly but now they are able to increase corn production by planting corn in rows. When they plant corn in rows it become easy for them to plant seeds, apply fertiliser and take care of the plants. Plants get adequate light and breeze and plants are able to extract food and nutrition from the soil.

With regards to fertiliser usage, not only SHOUHARDO III farmers are saving money by using less chemical fertiliser but they are now using more cow manure, vermicompost and organic fertiliser that are cheap and environmentally friendly. There has also been substantial changes in applying fertiliser to soil. Before the project, farmers used to unwittingly increase input of a particular fertiliser (i.e. urea, gypsum, potash or zinc) if the soil lacked fertility, while having no clue about the actual requirement of the soil. Soil fertility will not increase if a farmer applies potash where zinc is needed. This is no longer the case since SHOUHARDO III farmers are now aware about the requirement of a particular piece of land and they now apply fertiliser in a balanced way. Tulip has been a beneficiary of the project since the beginning and she has become an expert in growing eggplants. Tulip expressed her delight in working with the DAE official while showing me her field full of eggplants:

> Anis[41] Bhai[42] has taught me very well and he is very helpful to me. When I first started cultivating eggplants, those plants would often be malnourished. He visited my farmland to inspect the plants and advised me to use some fertilisers that helped the plants to grow better. He would often visit our fields and provide useful information that have helped me to increase my income by growing more eggplants.

Image 7.8: Tulip showing Author her eggplant field

In Islampur Upazila, PPR (Peste des Petits Ruminants) is the disease that is responsible for majority of goat mortality, which is also known as the goat plague. The best defence against PPR and other diseases is keeping goats on raised platforms and providing regular vaccination. However, vaccination can be expensive for smallholder livestock owners of the project. When done for vaccinating only one goat, it usually takes about 200-250 *taka*. With the help from the local Department of Livestock Services (DLS), SHOUHARDO III has made vaccination cheaper for the beneficiaries by having vaccination done in bulk in a single day for 150-200 goats. This drives down vaccination cost significantly lower and it only costs about 10 *taka* per goat that includes vaccination price and vaccination provider service fee. Motin, DLS's community extension agent for Islampur Sadar UP, talked about the partnership between DLS and the project:

> DLS and SHOUHARDO III trained a number of local individuals to provide vaccination services so that owners continue to avail vaccination services for their livestock. Not only the project has provided these local vaccination service providers with employment but also developing such capacity will keep

[41] Anis, DAE's deputy assistant agricultural officer responsible for Goaler Char Union Parishad
[42] *Bhai* (ভাই) is a Bangla word, which is used to call upon a man who is older in age.

serving livestock owners after SHOUHARDO III phases out. ESDO staff members set a date for mass vaccination and invite vaccination service providers and project beneficiaries and non-beneficiaries to bring their goats. The vaccination service providers are provided PPR vaccination at the minimum cost from DLS.

Image 7.9: Vaccination service provider trained by SHOUHARDO III and DLS

Around 100 goats can be vaccinated from one unit of vaccination. But once a vaccination tube is opened, it must be used within a short period of time. It is not possible to reseal the tube and use it later. Having 150-200 goats vaccinated at the same time saves goat owners money. Bulk vaccination is also beneficial for vaccination service providers since they can easily earn 1000 *taka* by vaccinating 200 goats on a single day. Beneficiaries have to vaccinate once every six months to protect their goats from PPR disease. Goat owners are embracing vaccination and keeping goats on raised platforms instead on the ground. Moryam, a project beneficiary and a mother of three boys, had this to say about rearing goats:

> I have benefitted from new activities in rearing goats. My goats were significantly vulnerable to PPR disease before, but now they don't suffer from this disease. I used to keep the goats on the ground before, but now I keep the goats on a raised platform. We apply two vaccinations each year but we were unaware of the vaccinations before. That's why my goats don't perish from disease anymore. I have understood about the importance of regular vaccination as it prevents untimely death of livestock. I suffered from major setbacks when some of my goats died from PPR disease.

Linking Project Beneficiaries with Local Government System

Union Parishad (UP) is the lowest tier of the local government system of Bangladesh, currently there are 4,554 UPs in Bangladesh. Each UP has an elected chairman, nine elected members from nine general wards and three elected women members from three reserved wards. Each reserved ward is made up of three general wards. So each UP has a chairman (male or female), nine general members (male or female) and three women members (reserved). A UP is responsible for carrying out a range of functions with regards to civic welfare and local development activities. The Government of Bangladesh has undertaken various measures (i.e. holding regular ward meetings, organising open budget sessions, village courts, right to information etc.) to improve functionality of UPs. Yet UPs are often criticised for showing reluctance in ensuring development, inadequate participation of people, lack of transparency and accountability, disorderly and unequal service delivery (Panday & Rabbani, 2011). Likewise, the majority of the inhabitants of SHOUHARDO III villages, are unaware that they can attain a range of assistances and benefits from their respective UPs. Reyad, CARE's technical coordinator for the project, enlightened me about the general behaviour of villagers towards UPs:

> Villagers would often say that the UP chairman and members takes all the VGF cards. These cards, known as vulnerable group feeding, are a form of social safety net for the poorest provided by the government. A VGF cardholder receives a certain amount of food support each month. But villagers must follow a due process to attain a VGF card from the UP. You have to talk with either the UP member of your respective ward or talk directly with the UP chairman and make an application if you are eligible. Very few villagers are aware of such procedures.

One of the main objectives of SHOUHARDO III is to increase communication and cooperation between villagers and respective UPs. ESDO and CARE employed a two pronged approach for achieving this objective. Firstly, they formed a Village Development Committee (VDC) from each project village that represents all project beneficiaries from the respective village. VDCs are composed of beneficiaries of the project and they are responsible for maintaining communication between villages and their respective UPs. There are eleven members in each VDC and members are also responsible for monitoring project activities in respective villages and assisting all beneficiary households in implementing various SHOUHARDO III purposes. A VDC closely monitors how many objectives have

been achieved in a village with regards to livelihoods, whether beneficiaries are getting support from government extension agencies (i.e. DAE and DLS), deletion or addition of crops and vegetables, taking account of other relevant issues of the community. Secondly, ESDO staff members ensured the inclusion of some VDC members in the Union Parishad Development Committee (UPDC) of the UPs. UPDC committees are highly powerful and committee members meet once every two months. UPDC committees generally include the UP chairman, all twelve UP members, local elites, teachers, businesspersons and other influential figures of the UP. VDC members are now able to participate in UPDC meetings and they get to speak and raise pertinent issues in the meeting. Most importantly, ESDO and CARE have ensured the participation and cooperation of the influential chairman of Islampur Sadar UP, Shabaj. The UP chairman is the one of the most influential figures of any UP. Warranting support from such an individual has smoothen the implementation of SHOUHARDO III in Islampur Sadar UP.

I was accompanied by Mokarram and Anowar, staff member of CARE and ESDO respectively, to Islampur Sadar UP office to have an interview with the chairman. I saw more than 15 people as we entered Shabaj's office. The chairman's office has an open door policy and I could realise that people have easy access to him. Shahbaj greeted Mokarram and Anowar as he saw us entering his office. Anowar introduced us and informed the chairman about my research purpose. Shahbaj was very friendly and took a lot of interest in my research intention and thanked me for choosing his area for fieldwork. He asked others waiting in the room to spare him some time so that he can talk with us. They obliged happily and few of them knew Mokarram and Anowar from before. Shahbaj told me he was grateful to Mokarram and Anowar and thanked them for SOUHARDO III since the project has helped many poor inhabitants of his UP. I was taken by surprise to see such closeness and comfort level between the chairman, Mokarram and Anowar. Shahbaj informed me:

> There are 12 Union Parishads under Islampur Upazila. The Upazila Disaster Management Committee, ESDO and CARE selected five Union Parishads for the SHOUHARDO III project after conducting survey and calculation. This is how my UP got included in SHOUHARDO. They held community meetings in many villages and got information about poverty rate, backwardness, riverbank erosion and other things of my UP. Climate change effects have worsened the situation in my UP. They have taken only three wards in SHOUHARDO's working area that are Sundurpur (ward no. 2), Kasiara (ward no. 3) and

> Bachbaria (ward no. 4). The project is working for the people who live below the poverty line. They have helped our people in purchasing goats, gave capital so that the poorest can start trade, provided support in agriculture, provided nutrition support to pregnant women and children.

By virtue of being elected by the people to this position, a UP chairman wields considerable power and visibility in rural communities. A typical UP chairman, such as Shahbaj, heads meetings and committees, distributes funds and relief assistance to wards and UP members, has the final say on UP budget and expenditures, registers births, deaths and marriages, watches over schools and colleges and executes other duties (Casper, Ingram, & Jahan, 2002). Even though UPs are tasked with carrying out many duties and responsibilities, they are provided with scarce resources with regards to funds, human resources, transportation logistics, office space and equipment. This is the reason why Shahbaj has been so supportive of SHOUHARDO III. I decided to hold back with my questioning and let the conversation flow between Shahbaj, Mokarram and Anowar. The dynamics of their exchange was telling:

> Shahbaj: Other than Union Parishad Development Committee (UPDC), we also have 12 standing committees in our UP. Many SHOUHARDO beneficiaries attend these committee meetings and have their two cents. I also participate in yard meetings organised by SHOUHARDO's VDC that are held in villages.
>
> Anowar: That's how we maintain communication. There are representatives from each project village and they communicate their demands and problems in those meetings.
>
> Shahbaj: We take all necessary measures after hearing the people, urgent matters are addressed first. I have only one recommendation for you. I want all my nine wards to be included in the project.
>
> Mokarram: It is logical what you are saying because Islampur Sadar UP is a vulnerable area and we have included the most vulnerable wards in SHOUHARDO III.
>
> Shahbaj: That's all good! Please take my entire UP instead of focusing only on 3 wards.
>
> Anowar: You have to ask this to the gentleman sitting next to me (Anowar points to Mokarram who is a CARE staff member).

Shahbaj (looking at Mokarram): My other wards are not doing so well. Is there any way you can include some additional wards in the project?

Mokarram: I also believe your entire UP should be included except few wards. To be honest, we can't possibly include any additional wards in SHOUHARDO III as it is already in its 4th year. But if there is a SHOUHARDO IV, then we will definitely consider that.

Shahbaj: I am grateful to CARE for that. Poverty reduction process will be accelerated in my area if SHOUHARDO gets extended for a fourth phase.

Anowar: We are thinking about providing motor driving lessons to some of our beneficiaries. But tell me, can you help us by making sure that our trainees get driving license from the authority without any trouble?

Shahbaj: We will make sure your trainees won't face any complication from the road and transport authority, you can start arranging training sessions.

Mokarram: I'm not sure whether I should say this in front of Shahbaj Bhai, but he supports the project in every way possible.

Shahbaj (to author): Why wouldn't I support? My people are getting benefitted. The support I am not getting from the government, the project is giving me that support. So why wouldn't I give time? Today I left a very important meeting at the Upazila so that I can give time for this meeting

The ongoing cooperation and cordial relationship between the project and Islampur Sadar UP have been useful for SHOUHARDO III beneficiaries. The UP has become more responsive in delivering crucial services to its people. Jainab, a project beneficiary and a resident of Islampur Sadar UP, expressed her views about the UP:

We have good communication and dialogue with the UP chairman and members. We have a UP member from our ward as well as a female UP member. We contact them whenever there is a problem. We always find them beside us in times of need. I got a tube-well, a latrine and a VGF card from our Union Parishad. My mother-in-law gets a stipend for widows too.

It is pivotal for development projects to ensure support from these local government institutions. It would not be possible to implement SHOUHARDO III to this degree of

effectiveness, had the local politicians created complications. ESDO and CARE maintain a good relation with local politicians such as Shahbaj. These local politicians are always kept informed about activities of SHOUHARDO III by ESDO and CARE maintaining complete transparency. As a result, the project has successfully influenced the UP to include the poorest of the community in its forums, committees and activities. With the possibility of including motor driving lessons for SHOUHARDO III beneficiaries, it is evident that good relationship emanating from an ongoing project can create more avenues for cooperation.

Image 7.10: Beneficiaries have more access to Union Parishad representatives. Source: CARE

Working with a Holistic Approach

Beneficiary households of SHOUHARDO III are experiencing better livelihood outcomes coupled with greater access to government services. Since their income has increased, they are likely to adapt better when faced with challenges imposed by climate change. However, significant reduction of vulnerability to climate change will not be achieved by only doing the above. Individuals and communities are subject to social barriers comprising of psychological, behavioural and socio-institutional elements that dictate how they react to climate stress and change (Jones, 2010). Similarly Adger et al. (2009) contented that ethics, knowledge, attitudes to risk and culture as four limits to climate change adaptation that are endogenous to society. To address some of these social barriers and limits, SHOUHARDO III assists beneficiaries to develop capacity at individual, household, community and system levels in areas of health and nutrition, disaster risk reduction and women empowerment. The project tackles socio-cultural and behavioural elements that are responsible for making these communities more vulnerable to climate change and worsen other aspects of their lives.

In rural Bangladeshi communities, people often have very little awareness about health and nutrition issues and they are often influenced by superstition that can lead to fatal consequences.

To address this issue, SHOUHADO III has a component for improving health and nutrition status of pregnant and lactating mothers and children under the age of five. The Government of Bangladesh provides various health and nutrition support though community health centres in rural areas. Community health centres do not have adequate numbers of beds, doctors, nurses, medical equipment and medicine supply. Sometimes villagers feel hesitant to go to these medical facilities simply because they are not located close enough and a visit to a community clinic may cost them a day's work. Villagers are more likely to visit health centres when the health issue becomes serious. So, the project is using ESDO fieldworkers to provide health and nutrition related information among beneficiary households. They organise courtyard meetings in a specified location of the village with pregnant, lactating and married women of beneficiary households to discuss various health issues relevant for that moment in time. Well-trained ESDO fieldworkers use demonstration, flipcharts, pictures and other information to sensitise beneficiaries about health and nutrition issues. They register pregnant women from beneficiary households and make sure they visit the closest community health centre at least four times during pregnancy to get prenatal care. After completing four months of pregnancy, the project provides the pregnant woman with 6.675 kilograms of wheat, pulse and other nutritious food each month. This supplemental food support is provided for 12 months. I spoke to Sujata who is ESDO's technical officer for health and nutrition. She provided a detailed explanation about their outreach with beneficiaries:

> We encourage mothers to only feed breastmilk to new-borns for six months. After six months, the project provides food supplement for the child for 18 months. In total supplemental food support is provided for 30 months, 12 months for the mother and 18 months for the child. In addition, we organise courtyard meetings to raise awareness about what to feed a baby up to 2 years and demonstrate cooking and feeding techniques. For children under two, this is a vital part of their lives and family members must be made aware about the children's health and nutritional needs. Infants become quite vulnerable to diarrhoea and pneumonia during March-April. We advise mothers to take extra caution in meal preparation and feeding infants during this time. And we don't have to tell our beneficiaries to vaccinate their infants any more.

Image 7.11: Interview with ESDO technical officer Sujata

Saleha, an ESDO fieldworker for health and nutrition, took me to Jainab's house who has been involved with SHOUHARDO III from the beginning. As I just started the conversation with Jainab, two of her neighbours arrived at the location. Both Rajia and Aklima are project beneficiaries and Aklima had brought her child along. They pulled up couple of chairs and got engaged in the conversation. During the conversation with them and the ESDO fieldworker, I was made aware that there was indifference among pregnant women towards undergoing medical checks. This disinclination caused deaths of many pregnant women. SHOUHARDO III has provided provisions of regular health meetings where pregnant women undergo medical checks and provided with iron tablets that are vital for them. This health outreach has made women less vulnerable to pregnancy related complications. ESDO fieldworkers make sure that beneficiaries give their new-borns colostrum right after birth. Similarly, beneficiaries used to believe that children who are between six and twelve months old, should not eat anything else except breastmilk. They thought other food items might trigger a disease. But beneficiaries now prepare a highly nutritious mishmash made from rice and vegetables for children of this age group. The project beneficiaries are well aware of the importance of vaccination and now they seldom miss a vaccination for their children. But most importantly, these young mothers of beneficiary households exhibited incredible knowledge about maintaining optimum body weight for their children, the likes of which I have not seen even among highly educated urban women of Bangladesh. The following conversation revealed the extent of their knowledge on the issue:

Author (to Jainab): How old is your child?

Jainab: My child is 26 months old. We use a chart when we weigh our children. My child weighs 10.5 kg and this is an optimum weight for him. We use two colours to denote different variants of bodyweights, green for optimum and red for underweight.

Author (to ESDO fieldworker Saleha): Why is she telling me her child's age in months instead in years and how do you determine a healthy body weight according to child's age?

Saleha: We weigh the babies each month according to a health chart. The chart contains age in months and there are ranges allocated for each month. For an example, a baby should weigh 5 kg when 8 months old. This helps the mother to understand whether her child has the right weight or underweight or overweight.

Author (to Aklima): How many kids do you have? How did you determine such body weight classifications 7-8 years ago?

Aklima: I have three kids. My eldest kid is nine years old. I never weighed my elder kids 7-8 years ago the way I weigh my youngest each month now. I can still recall my elder child used to remain ill for considerable time when he was an infant. To be honest, we did not have ideas about healthy bodyweights for children before SHOUHARDO project and now I regularly weigh my child to make sure she maintains a healthy weight.

Saleha: We weigh each child every month to know whether growth and development of the child are furthering at a satisfying level by using the health chart. We use a health card for each child to record weight, if the child is tall enough according to age or if the child is suffering from any illness. Such activities help a mother to be more aware and knowledgeable about the health of her child

Jainab (interrupting Saleha): I have more knowledge of keeping my child healthy and disease free. If I find that my child is underweight, I will be able to take necessary steps like giving supplement meals or regular bathing to keep him clean. This will help him to gain more bodyweight which will keep him

from falling ill. If I find my child to be underweight this month, I know what I have to do make sure he retains a healthy weight next month

Image 7.12: Author in conversation with Saleha (ESDO fieldworker), Jainab, Rajia and Aklima

On the other hand, the resilience component of SHOUHARDO III develops capacity at individual and community levels to mitigate, adapt and recover from weather and manmade shocks. Islampur Upazila is highly vulnerable to seasonal floods and people of this area are aware of disaster preparedness from before. The five Union Parishads of Islampur Upazila that are covered by the project, have become more capable in disaster and community risk management during floods and other weather hazards. The project works with the Union Parishad Disaster Management Committee (UPDMC) of each UP to assist them in capacity building at implementation level. A government circular came out in January 2015 that mandated each UPDMC to have 36 disaster volunteers who would work to increase disaster awareness, preparedness and respond during a disaster. Though it was a government circular that must be complied with, all UPDMC found it difficult to amass 36 volunteers. The project mobilised all its village development committee (VDC) members in five UPs to recruit 36 volunteers for each UPDMC. By using their reach in the community, VDCs generated a pool of interested individuals. Out of these individuals, 36 volunteers were selected for each UPDMC by the respective UP members. SHOUHARDO III trained these volunteers in resilience, climate risk management and disaster risk reduction (DRR) to build their capacity for withstanding weather calamities. The UPDMC volunteers and VDC members played a crucial role during the floods of 2017. Saikot, ESDO coordinator for resilience, reminisced their effort:

> UPDMC disaster volunteers and many of our VDC members went to the most remote areas of Belgasha, Polobandha and Islampur Sadar Union Parishads and rescued villagers. In some cases, these volunteers made small dinghies and rafts with their own money to rescue people when we could not provide them with any funds from SHOUHARDO.

Image 7.13: UPDMC volunteers and VDC members helping people during 2017 floods. Source: CARE

Cannon (2008) argued with regards to conventional approaches to disaster risk reduction (DRR) measures that communities vulnerable to extreme risks (i.e. floods, storms, riverbank erosion etc.) have a different set of priorities, than those of outsiders who want to help protect the communities in question from extreme risks. Saikot, ESDO coordinator for resilience, observed similar trend among SHOUHARDO III beneficiaries:

> When we disseminate health and nutrition messages to pregnant women in the courtyard meetings, we would provide resilience messages at the same time. We tell them what we mean by a disaster or a weather event. But if you ask a woman what is a disaster to you, she might say, I had a cow but it is dead now, and this is my disaster. So we raise awareness that disasters are not only limited to weather hazards. They might include death of a livestock or illness of a family member.

ESDO fieldworkers have been able to teach beneficiaries about idiocentric shocks. Disasters are not only limited to weather related issues but it might be an event that only concerns a family. For an example, a family may have planned to extend the house by selling a cow, but an untimely death of that cow puts an end to that plan. Therefore, the project encourages beneficiaries to make preparations for such setbacks. SHOUHARDO III farmers check

weather forecast before they parboil paddy to get rice. If the forecast shows sunny weather, farmers go forward with parboiling paddy and lay parboiled paddy in the sun. While farmers refrain from parboiling paddy if the forecast shows rain. Likewise, as discussed earlier, livestock owners ensure regular vaccination to prevent untimely death of livestock. The project has successfully nurtured beneficiaries to become vigilant towards impending weather and other risks. This behaviour echoed in the words of Rajia who is SHOUHARDO III farmer:

> We have a phone number 1090, where we get all weather updates. I call that number to get all important weather information before making any important agriculture and farming decisions. For example, I will get weather forecast for tomorrow whether it will rain or not if I plan to boil paddy today. I did not know about such things before SHOUHARDO but now I know how to get weather information.

Image 7.14: Beneficiaries exhibited keen awareness on weather

Improving Standing of Women in the Local Community

Owing to patriarchy, poverty, general lack of literacy and information, many woman in rural Bangladesh know little life outside of home and immediate surroundings. These women are groomed to be future wives and mothers who play an insignificant role in decision-making with regards to crop selection, labour utilisation on the field or whether to send children to school or not (Kulsum, Rahman, & Hasan, 2019). Nevertheless, Kabir, Marković, and Radulović (2019) investigated the aftermath of rural women's income from small-scale agricultural farming and found this income to cause positive changes in their lives while increasing women's control over decision and income in the family. They extended that active participation in small-scale farming assisted women in attaining highest empowerment

and overcoming socio-economic barriers and prejudices in a rural Bangladeshi context. Women's rights are now synonymous with women empowerment and ultimate women empowerment can only be achieved through entrepreneurial development backed by income generating activities (Bhuiyan & Abdullah, 2007). Afzal, ESDO's technical coordinator for livelihood, seems to have the same belief:

> We won't be able to increase women empowerment unless they increase their earnings. This is my point of view and it may differ with the point of views of others. I believe being financially and economically established are the prerequisite of being an empowered woman. A woman might not be empowered through fifty years of different activities but a woman can be empowered within a year if she becomes financially solvent.

To this end, SHOUHARDO III mobilised its women participants in various livelihood. In addition to on-farm and off-farm livelihoods discussed earlier in the chapter, the project offers a whole host of non-farm trade support that includes tailoring, handicrafts, *nakshi katha*[43], bamboo and rattan works. All these trades have helped SHOUHARDO III female beneficiaries to increase income but they deem tailoring to be most profitable. Similar to training sessions for on-farm livelihood, tailoring training sessions are given in groups because it is not feasible to hold training sessions for only 6-7 participants from one UP. ESDO would organise at least 20 participants from 2-3 UPs for tailoring training sessions. These sessions were held at ESDO office in Islampur Upazila unlike training sessions for on-farm and off-farm livelihood that were held in respective villages of the beneficiaries. Trained tailors did not have to wait much longer for work and they found tailoring orders with relative ease. ESDO staff members seemed very pleased with the outcome of this livelihood. Afzal could not hide his exuberance to me:

> Tailors started to earn at least 4000-5000 *taka* per month, some earn 8000 to 9000 *taka*. Some beneficiaries even earn around 15000 *taka* per month. They never thought a woman can earn 4000-15000 *taka* every month from her home. Some of the trainees have transformed themselves to an extent that you won't believe until you meet them. You might think I am exaggerating but this is the reality. We have trained some female beneficiaries on handicrafts. Though we

[43] *Nakshi Katha* (নকশি কাঁথা) is a hand-embroidered quilt native to Bangladesh

> have full engagement with them but they can only earn between 1500-2500 *taka* per month because handicraft wages are low.

Afzal took me to Nabila's house who received tailoring training from the project. We were accompanied by Taslima, an ESDO fieldworker who resides in the same village. In her mid-twenties, Nabila lives with her husband, two children and mother-in-law. Unlike husbands of all the beneficiaries I interviewed thus far, Nabila's husband has not migrated to Dhaka for work and he owns a tailoring shop in Islampur Bazar. We started the interview on her yard but Nabila seemed somewhat shy in her replies. I was little disappointed as she was giving very short answers to my questions. Seeing little hope of getting any useful information I was slowly winding down the interview. I finished the interview and Nabila invited me, Afzal and Taslima to have some tea before we leave. We entered in a very large room with a bed, a big trunk, a foot-peddled tailoring machine on top of a table and a chair. Luckily I forgot to switch off my recorder. Since there were no extra chairs in the room, we sat on the bed and Nabila sat on the chair behind the table. We started having general conversation as Nabila's mother-in-law served us tea and biscuits. As we were having tea and talking for about 5-10 minutes, something remarkable happened. Nabila instinctively placed a measuring tape around her neck and started working on an unfinished fabric. Words suddenly started to flow from her as she was in her comfort zone:

> I have huge work orders each month and I make a good earning *(smiles and blushes)*. I keep account of all the earnings and expenditures in a notebook. I have a revenue about 15,000-20,000 *taka* per month and I make about 50,000-60,000 during *Rojar-Eid*[44]. My tailoring charges depend on the variety of the fabric. I charge 70 *taka* per yard for pakeezah fabric and 60 *taka* per yard for shinepukur fabric. I take 120 *taka* for one set of dress and a blouse. I take 300 *taka* for shirts. Keep me in your prayers. I have received a lot from Shouhardo project and this project has showed me the way.

I prodded her a little and asked, but don't you feel bad, I mean you are doing well but many of your neighbours were not taken in the project? All her shyness was gone by now and she replied quickly:

[44] Eid-ul-Fitr (ঈদুল ফিতর) is commonly referred to as *Rojar-Eid* (রোজার ঈদ) in Bangladesh

> You know I feel even better when I am able to spread the new idea and knowledge to people who are not participants in the project. My neighbours and people in the village are my chief customers. My husband has a tailoring shop in the market, I prepare all the orders from that shop. Instead of hiring a tailor and paying that person a salary, I make all the clothing orders. But I am very careful about my cut of the share and I count to the last *paisa*[45] and make sure I get my part of the income. I see no problem in that because he had to pay the same amount to a hired tailor. And that money stays with me, ultimately that money is staying in the family.

Image 7.15 and 7.16: Nabila working on her tailoring machine (left) & feeding her cow (right)

In addition to her income from tailoring service, her husband earns from the tailoring shop in Islampur market and she makes a good amount from her livestock. They use their earnings meet the expenses with regards to food cost of the family and livestock, education of their children and all other necessities. Nabila has been able make some savings after meeting all the expenditures. The family has purchased a piece of land in the village and she maintains two deposit schemes where she deposits 500 *taka* in a cooperative and 1000 *taka* in a bank every month.

Such empowerment and prosperity have also been realised by SHOUHARDO III farmers. Two women from Sovukura village from Goaler Char UP have to be particularly mentioned.

[45] *Paisa* (পয়সা) is equivalent to penny or cents. 100 paisa = 1 *taka*

Both Tulip and Monowara are in their early-twenties and they are neighbours and friends. My interview with them was very fluid and mobile. We started the interview at Tulip's house, took a walk in her fields and concluded the interview at Monowara's house. In 2018, Tulip cultivated paddy, corn and eggplant on her land. She refrained from cultivating paddy in 2019 as she suffered losses because of insects. We carried on with the conversation as we walked towards her field that was just a stone throw away from her home.


Image 7.17 and 7.18: Tulip in her eggplant field (left) & yield of eggplant (right)

Tulip: Last year was very good for us since there was no flood and I was able to produce heaps of crops. It was good for all crops but it was not ideal for cultivating paddy. This prompted me to cultivate more corn this year. I left my land dormant for a month by not cultivating anything for a month before planting corn seeds.

Author: Why did you leave your land unused for a month?

Tulip: I had to delay the harvest of corn to ensure I could sell corn when the price is high in the market. That's why I delayed planting and harvesting corn for a month. Also, land needs some time off to regain full fertility.

Author: How do you sell your corn and vegetables?

Tulip: We have a village market nearby where there are wholesalers. I sell my crops there. Occasionally we take our harvest to the big bazar in Islampur when we have lots. But we easily sell our crops in the nearby village market.

Tulip has become an expert farmer and she demonstrated her farming acumen by avoiding paddy. She plans crop plantation and harvest with accordance with market trends and fluctuations of crop price. As we were walking back to Tulip's home, we were joined by Monowara who is also a beneficiary of SHOUHARDO III. Tulip introduced us and I asked Monowara if I can have a talk with her. She happily obliged and invited us to her home which was in the same neighbourhood. We were walking past a field full of red chilies where Monowara told us to stop. She pointed me towards a pile of plucked red chilies laid on the land for sun drying and said:

> Monowara: I keep green chilies on the plant until they turn red. Then I pluck them off and dry them under the sun. I sell them as dried red chilies. Selling red chilies is more profitable than selling green chilies. I usually get about BDT 5000-8000 *taka* per *maund* depending on the quality.
>
> Author: What else do you cultivate and what is the profession of your husband?
>
> Monowara: I also grow potatoes, eggplants and corn. My husband lives in the village and he is also a farmer. You can see him right there working on that platform. He cultivates paddy. The land that you see there, I have taken that piece of land that is 10 *katha*[46] as a lease. I thought it would be sensible to lease some land to cultivate paddy which will also provide straw for our cow.
>
> Author: How do you sell your corn?
>
> Monowara: I sell corn in *maund* to wholesalers who come here to buy the crop. The price varies depending on the quality of the corn. It usually goes for 500-600 *taka* per *maund*.

SHOUHARDO III has been successful in transforming these rural women by engaging them with income-generating activities. These activities have empowered women who had little to do except household chores and taking care of children and the elderly. But now they are contributing in the family earnings. Beneficiaries are successfully pursuing these livelihoods because they are well-trained and well-informed. Income enables these women to make expenditures and savings that ultimately empower them.

[46] 1 *Katha* (কাঠা) = 1.65 decimal of land (equivalent)

Image 7.19: Monowara standing next to her corn plants

Ending Discussion

Close involvement and acceptance of the community people have been the hallmark of the SHOUHARDO III project. Local community has accepted the project positively and they are getting benefitted in terms of knowledge transfer and learning. The community and beneficiaries themselves assessed their needs and nothing was forced on them like a formula. This project is in its third phase because it made a point of addressing the crucial issues pertinent to the lives of the beneficiaries instead of following a top-down approach. Effective coordination with Islampur Upazila and fruitful partnership with five project Union Parishads have been a salient feature of SHOUHARDO III. The project maintains an Upazila Coordination Committee (UCC) at Islampur Upazila Office that includes the Upazila Nirbahi Officer (UNO)[47], chairmen and members of five project UPs, officials of various government extension offices (i.e. DLS, DAE etc.), ESDO and CARE staff. In addition, the project also maintains SHOUHARDO Coordination Committee (SCC) that closely monitors project activities at UP and village level. SHOUHARDO Coordination Committee (SCC) is made up from project beneficiaries and VDC members who advise the Upazila Coordination Committee (UCC) on how to increase government services in the project. With regards to communication and outreach, beneficiaries now have more access local government systems such as the UPs. Ordinary villagers seldom used to go to UP chairmen and members because they were mostly unaware off the services and provisions provided by UPs. Only those who are elites and somewhat influential had regular access to local elected politicians. SHOUHARDO III has increased communication between beneficiaries and elected UP

[47] Upazila Nirbahi Officer (UNO) is the chief government executive officer of an Upazila or Sub-District

representatives. Anowar, the ESDO staff responsible for implementing the project, highlighted the importance of having interactions with UPs:

> Union Parishad chairmen and members have to answer to the community people. They are elected representatives and they must go to their voters. The UP chairman or members might say I am very busy now so come later, if I go there for some work. But they can't deny community members when they go for settling an issue. At least they will listen to what the community members have to say. So UP politicians are more likely to do something on behalf or for the community member when there is communication.

SHOUHARDO III has resulted in a number of positive spill-over effects through fostering natural leaders and private service providers from the community. Natural leaders are community members who give service to community for free. The majority of activities in health and nutrition component have been carried out by volunteers who come from project villages. Volunteers often go to beneficiary's house and give advice to all family members on health, family planning, vaccination and how to consume the supplementary ration that is given by the project. Even though, direct health and nutrition provisions will end after phasing out of the project, these volunteers would remain in the community who are well capable of taking health and nutrition sessions, monitoring children growth, taking blood pressure and providing other health services.

Besides employment opportunity and training, these volunteers have been given weight and blood pressure machines by the project. It is very likely that these volunteers might become community health service providers or might get employment opportunities with other NGOs or state-run community health centres. Similarly, livestock vaccination service providers, trained by the project and Department of Livestock Services (DLS), are already self-employed. These service providers will continue to benefit the local community long after the phasing out of SHOUHARDO III. A typical development project such as SHOUHARDO III will eventually phase out and it was supposed to end in September 2020. With this in mind project created a number of *sustainables* that will remain in the community. Aside from nurturing health and nutrition volunteers, the project developed community agriculture volunteers and community empowerment volunteers who come from the communities. All volunteers for health and nutrition, agriculture and empowerment follow their specific modules and guidelines. These volunteers are working and contributing immensely for the

beneficiaries of the project as well as for the community in general. The community will continue to get support if the volunteers stay but there might be a vacuum if the volunteers are no longer there. It can be identified as an uncertainty or a challenge whether these volunteers would be there in the community in the future.

Most importantly SHOUHARDO III has done comprehensive work in promoting livelihood and increasing people's confidence. Beneficiaries now have more awareness about health, income, disasters and other complications about their lives and have an understanding about the solutions. Perhaps all solutions are not affordable but when beneficiaries know that they have feasible options to address a problem. Ultimately those options make them more confident about decision-making. When they have confidence with their decisions, they are more likely to successfully address the problems and take advantage of various opportunities. Asma, an expert farmer and a SHOUHARDO III beneficiary, talked about opportunities present in the area while acknowledging threats:

> We had severe floods in 2017 but there was no flooding in 2018. We have the advantage of diversifying cropping pattern here in Islampur. We are able to grow paddy, corn, jute and all types of crops and vegetables. It does not make sense to only grow paddy as a field crop. Some of us have cultivated onions beside chilies from own initiative. Many farmers cultivate pumpkins on the borders of corn field. I am cultivating red leafy with eggplants because eggplants require considerable time to mature and you can have two harvests of red leafy in that time window. So why not grow red leafy and eggplants together?

The acceptance from the government is significant and the project has gained considerable support from various government agencies. The government has appreciated SHOUHARDO III's design, its efficiency and implementation process. The Government of Bangladesh is committed to meet the Sustainable Development Goals (SDGs) (UN General Assembly Resolution, 2015), and the project assists and matches with achieving many of the SDGs. By supporting climate suited livelihood, increasing production and income, SHOUHARDO III has directly contributed to SDG 1 (No Poverty), SDG 2 (Zero Hunger) and SDG 13 (Climate Action). Besides, activities with health and nutrition have significant contributions for SDG 3 (Good Health & Wellbeing). While empowered female beneficiaries have direct implication on SDG 5 (Gender Equality & Empower Women). Coincidentally, all the beneficiaries

interviewed by me from this project were women. They have expressed that SHOUHARDO III played a pivotal role in improving their livelihood and increasing earnings. Most of these women were only housewives who contributed very marginally in terms of income in their families. But now these women are equally contributing along with their spouse in the prosperity of their families. Nevertheless, having more income is not the be-all and end-all of addressing climate change or the elements that have made these people vulnerable to climate change in the first place. Only having more income is not likely to effectively reduce climate change vulnerability. Marginal communities also need health and nutrition knowledge, women empowerment, responsive local governance and awareness of imminent weather hazards. SHOUHARDO III has quite successfully encouraged its beneficiaries to improve and develop resilient livelihood, embrace health and nutrition notions, increase freedom and mobility of women, have more interactions with UPs and keep a watchful eye on weather. Recently the project was extended for two additional years and therefore will be in the field till September 2022.

Chapter 8: Increasing Chances of Success- a Theoretical Framework for International Development (ID) Projects

The intention of this study is not to compare successes of the investigated projects nor to criticise each project's achievements or shortcomings. It needs to be considered that international development (ID) projects are implemented under various political, economic, social and climatic constraints. Successes in development projects are multifaceted, evolving and relative and issues such as number and quality of outcomes, longevity of the proposed changes and future possibilities need to be taken into account (Greenwood, 2019). As a result, successes of development projects need to be acknowledged and considered for future references. The development projects investigated in this study involved survival and prosperity of marginalised Bangladeshi communities threatened by climate change effects. Successes of these projects have to include broader issues that are not necessarily found on spreadsheets, which was ideally suited for the type of research in this study.

There is a need for a theoretical framework for understanding the factors leading to the success of development projects that address climate change in Bangladesh, which can also be utilised for designing and implementing similar projects in the future. In September 2018, Professor Janinka Greenwood, the senior supervisor of this study, and I were invited by GIZ to present my findings from GIZ's UMIMCC project in the Third Annual National Conference on Urban Resilience to Climate Change. The conference was held in Dhaka on 19th November 2018, where I presented various successful aspects of the UMIMCC project and Professor Greenwood proposed a theoretical framework that accommodated the successes I found in the UMIMCC project. The framework offered by Professor Greenwood was an adaptation from her earlier research project with Lynne-Harata Te Aika that explored factors contributing successful outcomes for Maori students in four tertiary institutes in New Zealand and reported in *Hei Tauira: Teaching and Learning for Success for Māori in Tertiary Settings (2008).* In addition to the conference in Dhaka, we presented the findings and the evolving theoretical framework at the ECER Conference in 2019 held at Hamburg University in a joint symposium with a GIZ official.

I am proposing a theoretical framework which has been adapted from the frameworks proposed in these conferences by Professor Greenwood and her work with Dr Te Aika (Greenwood & Te Aika, 2008). The framework contains five overarching success factors:

Local Relevance, Learning at all Levels, Knowledges, Support from the Top, and Actively Removing Barriers.

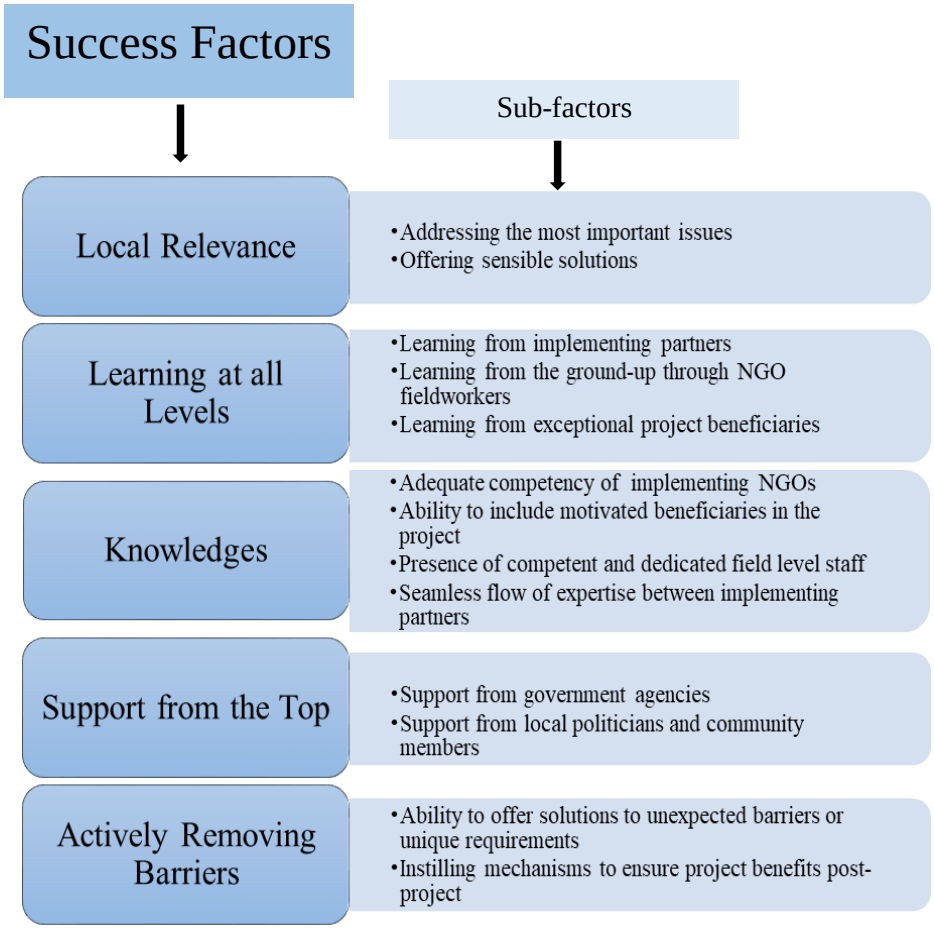

Figure 8.1: A theoretical framework for successful international development projects. Adapted from Greenwood and Te Aika (2008)

I have added sub-factors within these success factors that draws from critical successes from the projects investigated in this study. This chapter will also discuss examples from the five development projects to argue the importance of the above success factors and sub-factors.

Local Relevance

Providing technical, financial support and teaching adaptation to climate change are not enough for organisations tasked with implementing development projects in Bangladesh. Development organisations need to have sound knowledge about the local context. They need to learn about the people they are working with, peoples' capacity, their well-being aspirations as well as their evident material needs. Smith (2014) critiqued researchers who set out to research native communities without ensuring that the research project involves building capacity of the people to actively engage in their own well-being in terms that are

meaningful to them. She argued that “it is still rare but our communities do actively seek researchers to help them answer questions and resolve issues that are extremely important” and that “when the invitation comes, many research institutions are ill-prepared—they get excited but do not really have capacity themselves to answer the multidisciplinary and complex problem the community has identified” (p.19-20). A similar criticism might be made, and often is, of NGOs associated with developmental projects. What criteria might be used to evaluate whether development projects by NGOs effectively engage local people in their own wellbeing? NGOs in Bangladesh are often subject to the criticism that they often undertake development activities with very little community consultations and without preparing the communities in question adequately (M. R. Islam & Morgan, 2012; S. Rahman, 2006). This criticism can be extended to donors just as much as the NGOs as they try to import foreign practices and ideas without taking time to consider the local context and realities.

The relevancy of the components or interventions of a development project plays a pivotal role in determining its usefulness. A well-funded development project might well be less impactful if it fails to address the key issues relevant to its beneficiaries. In the context of Bangladesh and its ongoing struggle with climate change, these issues may comprise of environmental degradation, less predictable weather pattern, hazardous weather events, lack of information and technology transfer, educational and skill level of the beneficiaries, quality of agricultural and farming inputs, scarcity of non-farm livelihoods, insufficient access to markets and others. It is crucial for each development project to identify the key issues or barriers and devise solutions that will work for the beneficiaries. Three of the projects covered in this study were able to identify local needs with greater efficiency and offer interventions accordingly.

The issue of local relevance was vital for the Reclaim project that was implemented in Shyamnagar Upazila of Satkhira Distrct. Eleven years have passed since the ravages of Cyclone Aila but vast areas of Shyamnagar Upazila still bear the scars of that dreaded day of 25 May 2009. The Upazila was submerged with seawater for months that ruined the farmlands and traditional agriculture practices were no longer viable. In such dire situation, the Reclaim project was implemented to resuscitate on-farm and off-farm livelihoods while taking into account the salinity level of the soil and lack of freshwater in the area. The project was implemented by Shushilan and coordinated by Christian Aid. Similar to HILIP and SHOUHARDO III, project beneficiaries of Reclaim received training, learning and technical

support from officials of Department of Agricultural Extension (DAE) and Department of Livestock Services (DLS). Composite farming was one of the main components of Reclaim that supported beneficiary farmers to excavate ponds in their homesteads. Since freshwater is in short supply in this area, beneficiaries utilise these ponds to store rainwater that they use throughout the year. Water from the pond is used to irrigate the land that reduces salinity level. Each pond has canals that are used to carry water to different parts of the homestead as required for farming and other uses. Alok, a composite farmer of Reclaim, told me:

> We contain rainwater in the pond. There was not much water few weeks ago but recently it rained here and it rained yesterday as well. Now we have about 2-3 feet of water. This rain has benefitted us because now we have water for drinking, cooking and for agriculture. There is no water source in the area. People have to source water by their own initiative. The level of salinity goes down when it gets rain water. Even the water from tube-wells are very salty.

Alok was taken into the project in 2017. He had a small ditch in his land. Staff members of Shushilan and DAE trainers assisted him to convert it into a pond. He then used that pond to farm fish and utilised the water to cultivate *boro* paddy in the remaining land of his homestead. He had a good yield of paddy by using one *bigha* land. Alok's success influenced his neighbours to excavate ponds and use that water to cultivate paddy in their homestead. This was the biggest indicator of project relevance as huge numbers of non-beneficiary households started to apply this method. From April 2017 to March 2018, Reclaim supported 35 beneficiary households in composite farming. Staff members of both Shushilan and Christian Aid informed me that Reclaim project inspired more than 500 non-beneficiary households to start composite farming in Munshigonj, Burigoaliny and Atulia Union Parishads (UPs) of Shyamnagar Upazila. The ponds address both the issues water shortage and salinity, and people feel more confident about their livelihood when they have some water reserve.

However, this success was not achieved overnight. Many Bangladeshi farmers still exhibit a reluctance to embrace latest farming practices. Mohammed Nasir Uddin et al. (2014) conducted a case study in three coastal villages in Satkhira District and reported that older famers show lesser interest in adapting their agricultural practices to a changing climate. Their study also showed that farmers who have more education are more likely to consider climate change in their farming compared to illiterate or less-educated farmers (p.11). The

majority of the beneficiary farmers of the Reclaim project had little to no education, Shushilan partnered with the local DAE office to provide training using multimedia. Selim, DAE's deputy assistant agricultural officer for Munshigonj UP, explained the usefulness of using multimedia:

> Technology is on our side. We make and show documentaries about agriculture and crops to farmers. Though we are used to telling them about new developments in the field but it is more effective when we show them via videos and photos. I show them how the crop will look if it gets attacked by a certain disease or insect. We have computers and projectors in the UP office but we don't have such facilities everywhere. Through the funding of Reclaim, it is much easier for us to train the farmers using computers and projectors.

DAE trainers associated with the SHOUHARDO III project also mentioned the lack of education among farmers, which often limits farmers' ability to retain information and guidelines provided in training sessions. Trainers have to repeat the same thing three to four times so that farmers can grasp the content. Undoubtedly, the job of the DAE trainers would have been much easier if the farmers were more educated. But even poorly educated farmers and livestock owners pay close attentions to training lessons and teachings when trainers address issues tied to their economic interests. For an instance, community extension agents of DLS have expertise on both commercial and household-based farming for livestock. Beneficiaries of SHOUHARDO III are smallholder livestock owners who require guidelines and teachings on small household-based farms. Before commencing a training session, ESDO staff members communicate the needs of the beneficiaries to DLS trainer. Accordingly, the DLS trainer develops a training module that is suited to the needs of project beneficiaries.

Lack of education takes a back seat to the interests of the beneficiaries when training and learnings are need-based. Trainees have been observed to pay full attention to learning material even at the tail end of a two hour long training session. Trainees attend the trainings only to get allowance- such a tendency may exist. But matters of allowances become non-essential when trainers provide training lessons on farming and livestock rearing. Participants are reported to exhibit eagerness to learn about climate suited farming and technical issues of livestock herding such as vaccination, diseases, breeding and fodder. According to the trainers of DAE and DLS associated with SHOUHARDO III project, no one attends these

training sessions to get allowance especially women because they listen to what trainers have to say as if it was sermon.

I have seen the beneficiaries of the majority of the studied projects to exhibit a high level of interest and application of the training lessons and learnings. The dynamics of developing life lessons that are vital for survival of these communities have some parallels with the US philosopher John Dewey's work on experiential education. In the three essays collected and published by Martin Dworkin in 1959, Dewey (1959) argued that education content and schools structures should be reimagined as a part of the society because people live in communities and their education should come from self and have strong foothold in the community. Dewey stated in *My Pedagogic Creed*: "I believe that the only true education comes through the stimulation of the child's power by the demands of the social situations in which he finds himself" (p.20). Dewey believed that education should not be limited to a building rather it should embrace all parts and practices of the community. These development projects may not operate within the confines of a traditional school but their education and teachings address Dewey's 'social situations'. The role of the students are assumed by middle-aged farmers, small-holder livestock owners and young aspirants looking to acquire skills that might help them to get a livelihood resilient to climate threats. Trainers or officials of government agencies or NGOs, sometimes even past trainees don the hat of teachers in these earthy classrooms that mushroom in courtyards, crop fields, village markets or in traditional training institutes. Instead of focusing on math, language, history or geography, here teaching contents focus on saving crops from insect attack, artificial insemination to develop better breeds of livestock or breaking down a motorcycle and putting it back on.

Such action-oriented education has been advocated by education philosopher Myles Horton and Paulo Freire in their jointly authored book *We Make the Road by Walking (1990)* that was based on their conversation. Horton argued that "the way to do something was to start doing it and learn from it" (p.40) and Freire stated that "I am convinced that in order for us to create something, we need to start creating" (p.56). The teaching content of these sessions often evolve and include new issues dictated by the changing environment, a specific demand from the trainees or taking advantage of a new possibility. Bangladesh is going through a lot of changes but an informal social hierarchy is still present. A trainer with formal education has more social stature than a farmer who is supposed to play the role of a quiet listener in training sessions. But such sessions often take the form of interactive dialogue exchange, live

demonstration and discussion of ideas and opinions among a trainer and trainees. Trainers recognise the fact that farmers and livestock owners are practitioners and often they come up with ideas outside of the teaching manual. On the other hand, trainees acknowledge that trainers may have new information that can be useful for accommodating the changes in the climate.

Less-educated or uneducated trainees come along with their young sons and daughters. They make good use of the education skills of their offspring who are instructed to note down everything instructed by the trainer. Many of the female trainees come from traditional Muslim households who cover their faces in front of men outside of the immediate family. Their queries often get muffled because of the layer of cloth covering their mouth. In such case, they repeat the question three to four times or sometimes the question is rallied by their fellow trainees to the trainer. Many beneficiaries have shown the capacity to jump over the barriers imposed by social norms, poverty, powerlessness or climate change. But they require a sound foothold and a development project rooted in the realities of their context provides that.

Untimely death of livestock is a huge blow for many beneficiary households and livestock owners exhibit real interest towards livestock training sessions because they are relevant to their livelihood. SHOUHARDO III, to a large extent, has been able to make a match between the needs of a beneficiary and the solution offered by the project. For an example, Moryam was provided with financial and technical support for rearing goats from the project. In 2017 she received 3000 *taka* from the project and bought two goats by adding another 3000 *taka* from personal savings. She nurtured the goats for eighteen months and took proper actions to protect them from diseases through vaccination, nutritious feed and keeping the goats on elevated platforms. She was able to sell the goats for a total of 16,000 *taka* and used that money for buying a cow that costed her 24,000 *taka*. During my interview with her in February 2019, she owned a cow along with two young goats. It is evident that people prosper when a development project offers solutions that address issues relevant to the beneficiaries.

However, the issue of local relevance was not given much consideration in the PAP project implemented by Practical Action. That project focused more on an imported solution and pushed cultivation of pumpkins among beneficiary famers without taking their views and opinions. The project's beneficiary farmers, who possessed extensive farming skills for

growing various crops on sandbars of Rangpur and Kurigram Districts, showed greater interests towards producing cash crops such as peanuts, onions, watermelons and potatoes, which they grew independently and without any help from the PAP project. The beneficiaries took the support from PAP project and produced pumpkins that they considered as a bonus income. But beneficiary farmers would have earned more if the project provided them support for cultivating crops that are preferred by the farmers. Local relevancy must take precedence over a particular crop or vegetable or solution emphasised by a NGO or donor.

Learning at all Levels

Climate change is causing major changes in the environment, land, agricultural practices and livelihood patterns in Bangladesh. These changes allow continuation of farming but in different ways. The changes also encourage people to look for alternative livelihoods suitable in rural areas and sometimes people decide to migrate to urban slums for a more secured future. Helping these people in learning to cope with the changes is the overarching objective of the development projects covered in this study. Development projects are implemented through partnership between NGOs, government agencies, vendors, service providers, members of local community and beneficiaries. These spiral activities and processes going between stakeholders often leads to a considerable amount of learning. From the five development projects of this study, I have observed that project stakeholders are learning and co-learning from project activities as they directly interact with the realities in the ground. These learnings take place at organisational, community and individual-level.

The first level of learning takes place at the organisation level of the international development organisations, NGOs and government agencies. In some cases, there are differences of opinion among project partners that hinder the implementation process. In such cases, it is necessary to learn about each other's standpoint and find an amenable solution because changing project location, objectives or implementing partners halfway results in the wastage of resources that ultimately goes against the interests of beneficiaries. Though the UMIMCC project was planned and executed to a high degree of effectiveness, GIZ and KCC (Khulna City Corporation) had major disagreements with regards to not paying allowance to trainees. KCC, UCEP and CDC (Community Development Cluster) members requested GIZ to reconsider its stance since many trainees had to commute from different parts of Khulna City and providing some compensation did not seem to be a bad idea. GIZ was adamant that training sessions should be held without any allowance. The KCC mayor strongly opposed that since the trainees were poor. UCEP could not start training sessions for months because

of this stalemate. The mayor came up with a solution by arranging for lunch from an outside source using his influence and UCEP offered to provide trainees with transportation support. GIZ's intention was to enrol trainees in full day sessions for eight hours but UCEP argued that it was only possible to provide half day training for four hours without paying an allowance. This arrangement gave trainees a window to attend training sessions as well as work for a living during the rest of the day. GIZ accepted these solutions from the mayor and UCEP. Though they still had troubles finding trainees with these arrangements. CDC members were requested to utilise their community outreach to recruit trainees and training sessions could finally start after all these hurdles.

The above situation can be discussed in light of the theory of organisational learning by Chris Argyris and Donald Schön. Argyris and Schön (1996) proposed that organisational learning is dependent on allowing organisational inquiry to happen according to theory-in-use, not espoused theory. They identified two types of learning that may be present in an organisation: single loop learning and double loop learning. In development projects such as UMIMCC, the application of single loop learning would have led to applying established procedures and policies. International development organisations such as GIZ has its global headquarter in developed countries. Often procedures and policies are pushed to local offices that are applied without taking into account the dynamic situation in the project site. In other words, if GIZ opted for single loop learning or following established rules for addressing the stalemate, it might have derailed the entire project. Instead GIZ's local office understood the standpoint of the mayor of Khulna and took suggestions from UCEP as well.

I would argue that GIZ was involved in double loop learning and did not stick to the original structure of UMIMCC. I would further argue that in development project terms, an organisation is involved in double loop learning when it deviates from project structure to address an emerging narrative. Double loop learning was not only limited to GIZ. KCC and UCEP also deviated from their usual practice. It is not usual for an influential mayor to lend such support to a project financed by foreign donors. The mayor understood the importance and soundness of the UMIMCC project and used his influence to move it forward. For an NGO such as UCEP, it is customary that trainees will get paid by the project. But UCEP decided to provide transportation support to trainees from its own organisational budget, which is very rare. GIZ accepted these change and agreed for half day training sessions for the beneficiaries. Arguably all organisations involved in UMIMCC were involve in double loop learning that resulted in the success of the project.

Involvement of experienced and competent staff members can increase the usefulness of a development project. In SHOUHARDO III project, capable staff members of ESDO have been able to add more value to the project by incorporating new ideas. I was particularly impressed by Afzal, ESDO's technical coordinator for livelihood, who had more than two decades of working experience with Bangladeshi farmers and agricultural value chain. It occurred to him that smallholder beneficiary farmers producing small quantities of produce might benefit from a nearby makeshift market or bazar. He shared this idea with his ESDO supervisor and some staff members of CARE. The project had already formed close relationships among farmers and Afzal wanted to utilise that. Traders were invited to a village location where farmers brought their produce and the idea worked.

Since then these makeshift bazars or markets have grown in popularity. These markets are held once every month in each project village in Islampur Upazila. This initiative has given beneficiaries an outlet to sell their produce in small quantities (such as a dozen eggs). Afzal was able to execute his idea because the partner NGOs maintain healthy communication and feedback media that promote innovations. During my fieldwork I observed a cohesive work arrangement between staff members of ESDO and CARE. ESDO staff members freely communicate ideas and observations with CARE staff members based in Islampur Upazila as well as in the head office in Dhaka. Anowar, ESDO's project in-charge for SHOUHARDO III, informed me about communication arrangements between the partner NGOs:

> Let's say I am working in a village and I see something and think to myself how this can be improved. If it is under my capacity I would do it. When it is not under my capacity I contact the technical team of CARE, which could be in the region or in Dhaka. I communicate the challenge or limitation with them and ask them how we can address it. We get the required support from the technical team. So all the work here is done jointly. You have come here and you are talking with me, and Mokarram[48] Bhai is able to supplement our conversation when necessary. If the relationship was not this good then we would not have this level of access.

CARE makes an effort to consider suggestions provided by ESDO staff members. CARE understands that ESDO staff members spend a significant amount of time in the field and usually have more awareness of the environment in the field. After seeing a positive outcome

[48] Staff member of CARE

of the makeshift bazars in SHOUHARDO villages in Islampur Upazila, this idea was formally included in the DIP (detailed implementation plan) document of the project. Since then these makeshift bazars or 'group approach sell' as referred by ESDO, have been implemented in other project locations. This element of learning among partner NGOs has increased effectiveness of the project causing beneficiaries to sell their produce with more ease. Development organisations, like any other organisations, have a tendency to not dwell on the past mistakes and move on without carrying out self-scrutiny that is vital to learn from mistakes (Power, Maury, & Maury, 2002). But NGOs must have the ability to learn and make connections that might be more useful than taking lessons from past events, as Edwards (1997) noted that "in the messy, complex and unpredictable world that NGOs inhabit, it is the process of learning that really matters" (p.237).

But learning in NGOs is easier said than done. The process of learning requires NGOs to have honesty to admit mistakes and have the courage to make corrective measures. Often low and mid-level NGO staff members feel hesitant to admit errors or express the need for corrective measures because of job insecurity. The majority of the staff is hired through short-term contracts and staff see little incentive in learning. Fieldworkers of ESDO felt reassured that their suggestions and opinions will be valued and that will not affect their employment in the NGO. These types of learning can be viewed as network learning where organisations as a group change their behaviour by interaction and these learning extends to all organisations within that group not only to individual organisations (Knight, 2002). CARE has been successful in creating a congenial environment for communicating suggestions and learnings from the field. The bottom line is that CARE and ESDO have been able to create a mechanism where staff members are able to learn freely and take necessary actions when needed, which is an important catalyst for the success of SHOUHARDO III project. The healthy learning environment in the project has paved the way for implementing NGOs to collaborate with greater effect. Collaboration helps to build trust among project stakeholders (Ika & Donnelly, 2017) and provide support for accomplishing project objectives (Batti, 2015).

Sometimes development projects end up including beneficiaries who not only make the best use of project inputs and teachings but start a journey on a path of prosperity. I already discussed the success story of Kamrul, a beneficiary of the HILIP project, who has turned himself into an expert and wealthy farmer. Recently a cable news channel (ATN Bangla) did a story on Kamrul's farming and the journalist visited his farmland. Many farmers from all

around the country started contacting him and asked for farming advice. LGED, the government agency implementing HILIP, was aware of his farming expertise and acumen, and requested him to train the newly enrolled farmers. He happily agreed and now he provides training to beneficiary farmers. LGED staff members are happy with the training he provides because he speaks the local *Sylheti* dialect that is easy for trainees to follow. Shuvo, LGED's livelihood coordinator for HILIP, explained to me the reason behind this initiative:

> We know DAE trainers are experts but we sometimes ask Kamrul to take some training sessions. We believe he should share his knowledge with trainees. He tells them how project teachings helped him to produce bamboos and vegetables profitably and the many benefits of medicinal trees. Trainees pay a great deal of attention to what he has to say. Kamrul is a farmer himself and he benefitted from the project's teachings, applied them in his farming and made a profit. Trainees feel assured when he takes classes because Kamrul has proven that the training works. Besides, he speaks *Sylheti*, which is a bonus for trainees.

The combination of expert DAE trainers, highly successful beneficiaries such as Kamrul and the trainees have developed a learning community among themselves. Professional learning communities are viewed by some educators as a process of spreading classroom activities in the community utilising material and human resources present in the community. Some suggest that learning community can bring community personnel back in the school to enhance learning for students, while for some it serves as a process of bringing teachers, students, administrators to have them engaged in learning (Hord, 1997). The core principles of learning communities can be seen in this project as trainees are learning about new farming practices. Sometimes they are taught by expert DAE trainers and sometimes the teaching is done by a fellow farmer. LGED officials play the role administrators who are helping with the learning process.

These learning communities enable the trainees to form a close knit group of farmers that ultimately helps them to develop knowledge about adapting their farming activities with climate change. C. Mitchell and Sackney (2001) argued that a learning community exists in a group of people "who take an active, reflective, collaborative, learning-oriented, and growth-promoting approach toward both the mysteries and the problems of teaching and learning" (p.2). The learning communities in HILIP project are known as CIGs (common interest

groups) where a cohesive group of motivated farmers are learning from expert trainers, graduate trainees and peers. These grass-roots CIGs share similarities with learning communities from other parts of the world that address various issues relevant to the society. Osteen (2020) in his documentary showcased the work of the Highlander Center in the state of Tennessee of the United States, which has been facilitating a space where everyone is considered as a learner and a teacher and they build new knowledge together to create positive changes. The Highlander Center is a formal institute whereas CIGs in HILIP are informal groups for farmers but they have one important thing in common. They both bring people together to learn from each other. Benefits of learning communities are very likely to continue after the end of HILIP because these CIGs will still be there and farmers will continue to utilise them.

Knowledges

A complex spectrum of knowledge and skill sets of all relevant stakeholders are important hallmarks of a successful development project. These knowledge and skill sets determine how well an implementing partner plays out its role in the development project. Included here is the competency of the implementing NGOs, recruiting eligible and keen beneficiaries, competence and dedication of field level project staff and sharing of knowledge and expertise among implementing partners. Working with capable implementing partners that have the willingness to carry out development project is a critical success factor (Khang & Moe, 2008). The absence of capable implementation partners significantly reduces the impact of a development project. An NGO equipped with competent professionals such as managers, team leaders, engineers, trainers, agriculturists and field level facilitators ensures smooth execution of a project. Since all these projects assisted vulnerable communities to better adapt with climate change, the issue of competency is a vital aspect for developing capability that is necessary for managing the unfamiliar and the unexpected (Hase, 2002).

A number of NGOs who implemented the projects investigated in this study have exhibited a strong commitment to attain project objectives. In addition to having a strong organisational setup and competent staff, some of these NGOs have developed a close knit relationship with the concerned communities and project beneficiaries. When an NGO has long standing presence in a particular community they are aware of intention and objectives of beneficiaries who are eligible to get included in development projects. Development projects get the opportunity to include beneficiaries with genuine desire to improve their prospects when such NGOs are taken as implementing partners. Very little research has been done on the attitudes

or motivations of the beneficiaries of development projects implemented in Bangladesh. Often poor beneficiaries would enrol in development projects with a hope of getting project resources (such as training allowance and other unconditional cash transfers) with very little intention of utilising project teachings. It is imperative for development projects, particularly those intended to work with Bangladeshi communities vulnerable to the threats of climate change, to not include beneficiaries with such mind-set. By using a multitude of formal and informal networks and relationships, competent NGOs are better placed to identify beneficiaries primed to make the best use of project resources and learnings. The culmination of capable implementing partners and motivated beneficiaries is showcased in the following examples.

All the stakeholders in the UMIMCC project were able to bring their core competencies in the foreground. GIZ, the chief coordinator of UMIMCC that is also an international development organisation with worldwide operations, brought their vast experience in the project. The organisation took a contentious decision by deciding not to pay any sort of allowance to trainees of vocational skills training. GIZ's intention was to attract trainees who would look for work after completing the training course. GIZ partnered with UCEP, a highly reputed NGO in Bangladesh that specialises in technical and vocational skills development and UCEP offered flexible training sessions for the interested trainees. They offered half-day training or training on every other day - whichever was feasible for trainees - without paying an allowance.

But GIZ and UCEP failed to enrol the required number of trainees and UCEP could not commence training sessions for months. They sought the help of CDC members for recruiting trainees and, using their strong community networks, CDC members recruited the majority of trainees for UMIMCC. This gave UCEP an opportunity to utilise its core competence. All the trainees I interviewed spoke highly of UCEP training. Trainees particularly mentioned two reasons: teachers teach well and teachers behave well with trainees. The combination of adequate training and interested trainees resulted in negligible drop-out rate (only three out of 763) and high employment attainment by trainees post-training (90.2%). Due credit must be given to CDC members for recruiting highly motivated trainees and to trainees as well. Trainees of UMIMCC were aware that employment is not guaranteed after completing training and they needed to have perseverance and patience. Parvin received training for beauty salon work and she recognised the challenges:

> As there are many parlours in the area, it has become saturated. Not many people use my service where I live. Making money is getting tough. Since I am working for quite some time now I have few loyal clients. Eid is nearby and I am doing OK.

Rajiv, who received mobile phone servicing training, concurred with Parvin:

> One needs to be patient, at first it will be difficult to get work but as you develop your contact and customer base, after sometime you don't even need a shop. You can do your business just by networking and communication.

UMIMCC's slum infrastructure development component was hugely benefitted by the competency and integrity of the partnering NGO. Caritas was responsible for carrying out infrastructure development work in eight Khulna slums. The work quality of Caritas exceeded the expectations of the slum dwellers, CDC members, KCC and GIZ. Caritas opted to complete the construction work itself instead of doing it through a third-party vendor. Construction work was done in a thorough manner by engaging the slum dwellers and CDC members in every step of the way. Caritas refrained from taking a profit margin from the work, which would have been customary for a vendor. Caritas was able to complete the work under budget and returned 2,500,000 *taka*[49] to GIZ. Instead of profit seeking, the central objective of Caritas was to serve the community.

The role of the slum dwellers also needs to be acknowledge. From start to finish slum dwellers have given their labour, time, dedication to the slum infrastructures. Tenancy in the slums are very impermanent in nature as slum dwellers move from one slum to another corresponding with better work prospects. Despite the fragile tenancy arrangements customary in a typical Khulna slum, the attachment showed by these poor slum dwellers towards these infrastructures, was truly exceptional. High quality and longevity of the slum infrastructures is a testament of that attachment. GIZ made a wise decision by entrusting Caritas and the slum dwellers with the work.

There were some similarities between UMIMCC and HILIP projects. Both the projects intended to assist beneficiaries through non-farm livelihoods and involved construction of vital infrastructures. In terms of promoting non-farm livelihoods in the UMIMCC project, GIZ partnered with UCEP who provided vocational and skills development training. Not only

[49] 2,500,000 *taka* is equivalent of 29,762 USD (on 6th May 2020).

did UCEP provide high quality training, the NGO also stayed with the graduates for six months to help them find employment. UCEP placed some graduates of the motorcycle servicing course in various motorcycle companies, which was hugely beneficial for graduates as they got experience of working in advanced manufacturing facilities. In case of the HILIP project, there are no established mechanisms to follow up graduates or placement arrangements. The graduates are handed certificates of training completion and their interaction with HILIP ends there. So it becomes difficult to know whether these training sessions have actually been utilised for getting employment.

With regards to slum infrastructure in UMIMCC project, the proficiency of Caritas and slum dwellers have been explained in detail. However, in the HILIP project, I was unable to see high level of proficiency in the construction of the guide-wall in Hukumpur village. The construction was marred by delays, redoing, and lack of planning to account for bad weather. As a result, the guide-wall needed repairs within couple of months of completion. It goes to show the importance of the association of competent implementing partners and organisations in development project. Compared to the implementing organisation and NGOs (i.e. GIZ, UCEP and Caritas) of the UMIMCC project, LGED and its partners mustered lesser capability in implementing the HILIP project.

Having competent and committed staff members also contributes to the success of a development project. Employing dedicated staff members, especially those working in the field level, makes it easier for beneficiaries to reap project benefits and makes project goals more attune with beneficiaries. From some of the investigated projects in this study I have seen that a fieldworker often has to play the role of a teacher, facilitator, motivator and a well-wisher at the same time. Sometimes I have seen such close bonds that beneficiaries start to consider fieldworkers as their extended family members. Beneficiaries slowly start to trust NGO fieldworkers when they exhibit sound knowledge on specific project components, make an honest effort to understand the reality of the lives of beneficiaries and stand beside beneficiaries through thick and thin. It is important to have continuity for field level staff members because frequent staff changes hinder development of core competence (Edwards, 1999).

Retaining NGO fieldworkers becomes less of a challenge if they are hired from local areas as they are better aware of local conditions. Ensuring a match between beneficiary needs and project may not always lead to success. A beneficiary might lose motivation for various

reasons and stop implementing the learnings from the project. In such cases, the need for dedicated NGO fieldworkers is essential because they are usually close to the beneficiaries and they can take appropriate actions. With regards to SHOUHARDO III project, ESDO is utilising its fieldworkers to the fullest. When ESDO fieldworkers deal with a demotivated beneficiary, they try to ascertain how much motivation and coaching she/he requires. Some beneficiaries require very little prodding and some require more effort because they have fallen behind considerably. Staff members start by providing a real-life example of another beneficiary who has been prospering using similar teachings and inputs from the project. Reshma, an ESDO staff member, explained to me what they usually say as motivation:

> I say she is a woman from your village, your neighbour and she is no different than you. You can achieve what she has been able to achieve. When we give these types of motivation to others, they understand.

But these talks do not always work and fieldworkers have to resort to more aggressive approaches. In such scenarios they take a beneficiary who has been prospering to accompany them to the house of the demotivated beneficiary and have an intervention-like discussion. ESDO fieldworkers visit every beneficiary household at least once a week and encourage implementation of project materials and teachings. In addition to providing livelihood support to beneficiaries, SHOUHARDO III provides a nutritious food supplement to eligible beneficiary households. These food supplements include wheat that is meant to be consumed by a lactating mother and infant in the form of flour and semolina respectively. When ESDO fieldworkers visit such a household they enquire whether the wheat has been ground into flour and semolina and whether the supplementary food is consumed by the mother and child. ESDO staff members are aware of the fact that 100% application is not realistic but they are gradually improving the degree to which project inputs and teachings are applied by beneficiaries.

SHOUHARDO III is largely carried out in the field level by ESDO, which is the implementing NGO for the project in Islampur Upazila. CARE plays the role of the chief coordinating NGO monitoring the activities of ESDO, maintaining communication with the donor (USAID), and keeping liaison with government ministries and agencies. CARE staff members working in the head office are responsible for producing strategic guidelines, monitoring field implementation level, field testing a new intervention and making adjustments if required, and drafting donor reports. Often partner NGOs such as ESDO

requires technical, administrative and logistical support. To this end, CARE has an office in Islampur Upazila that has technical and field support teams. These support teams are responsible for carrying out policies that are formulated in the head office and working directly with ESDO to provide orientation and technical guidance. Each support team of CARE is headed by a senior technical coordinator (STC) based usually in the head office.

Staff members of ESDO spoke highly of the support they get from relevant STC of CARE whenever there is an issue. Project success often depends on the level of expertise of the implementing NGO. A local implementing partner NGO such as ESDO may have shortage of a particular skill that could lead to undesired project outcomes. Being vastly experienced with work experience in many countries, CARE needed to shoulder the responsibility for filling up any such skill gap. CARE employs a broad range of STCs who are expert in different sectors such as livelihood, women empowerment, health and nutrition, accounts and finance, and administration. If any CARE project needs high level expertise, the NGO can provide it from its own resources without having to hire outside consultants for addressing the need. Access to this resource pool helps ESDO staff members as they are able to get in touch with CARE experts quickly and get assistance. Hiring of outside consultants midway during a project inevitably slows down project progress and increase expenses. SHOUHARDO III is spared this disruption. The flow of knowledge and skills from CARE to ESDO is not only helping with the execution of SHOUHARDO III but ESDO is also enriching its knowledge base that can be utilised in other projects as well.

Support from the Top

The level of support provided for a development project from government and community plays a crucial role in its effectiveness. This entails support not only from government ministries and agencies but also from local political leaders and influential members of local community. Four of the five projects I investigated offered testimony mentioning support received from relevant government institutions. With the exception of the PAP project, all the projects nurtured a relationship of trust and cooperation with various government agencies. Having a cordial work relationship with government agencies and departments has three important advantages: 1) utilising expertise of the government agencies that are not generally found in NGOs and development organisations, 2) assisting government agencies in their service delivery activities through human and material resources, and 3) adding more trust in project activities through the involvement of expert government officials. Beneficiaries are seen to exhibit more confidence in different interventions of a project when it has linkages

with formal government institutes. This is the reason why implementing NGOs and donor organisations flaunt the formal relationship between a development project and government agencies. NGOs often use signboards to mark project sites and those signboards invariably contain organisational logos of the implementing NGO or NGOs, donor organisations and the partnering government agency, department or ministry.

A shift in the role of the government can be seen as it moves from playing the role of rower to the role of a driver and emphasising more participation from people to improve governance which has been appreciated by foreign donors (Brinkerhoff, 2003). The Government of Bangladesh has acknowledged the proliferation of non-state sectors and has increasingly encouraged partnership and coordination with local and international NGOs, foreign donors, consulting firms and research institutes. Partnership is generally formed between local and international NGOs, foreign or local donors and government agencies for implementing development projects targeting livelihood diversification, poverty reduction and enhanced resilience against climate change. There are both supporters and detractors of GO-NGO partnership. Some argue that increasing GO-NGO partnership might harm the process of development in Bangladesh (M. S. Haque, 2004), while others have recognised the role of such partnership in improving economic empowerment, sanitation, formal and non-formal education, conservation of the environment and provisions of health services (Ahmad, 2003; A. Rahman, 2003; A. N. Z. Ullah, Newell, Ahmed, Hyder, & Islam, 2006). There were some difficulties but implementing NGOs and project stakeholders have recognised the valuable contributions from the government agencies in the success of these projects investigated in this study. The government is aware of the threats climate change poses to the people especially the marginalised communities and has instructed its ministries and agencies to work with development organisations and NGOs to the best of their ability.

This cooperation was a catalyst in the UMIMCC project where GIZ (the main coordinator of the project) included officials of KCC and DSS (Department of Social Services) in the central steering committee. Both KCC and DSS are influential government agencies and they played a significant role in the smooth implementation of UMIMCC in Khulna. Barring the initial disagreement between GIZ and KCC with regards to paying daily allowance to trainees of UMIMCC's vocational and skills development component, GIZ, KCC and DSS would sit together and deliberate on every stage of project implementation. The objective of UMIMCC was to promote wellbeing of the climate migrants living in Khulna slums and empowering them through skilled employment. KCC and DSS agreed to this objective and refrained from

looking for personal or institutional gains from the project. All the partners intended to provide benefits to climate migrants of eight Khulna slums that ultimately led to the good working relationship among GIZ, KCC and DSS. Xavier, GIZ official in charge of UMIMCC, had this to say:

> GIZ did not care who is working for whom. We only cared if they are working for the people on the ground. This has ultimately resulted in cooperation between DSS and KCC, which has been the overarching theme of UMIMCC.

Similar government support and partnership persist in SHOUHARDO III project, which is being implemented by CARE and ESDO in rural areas of Islampur Upazila. In this project, the government agencies such the DAE and DLS work together with the implementing NGOs. This partnership has enabled the government agencies and NGOs to combine each other's strengths and weaknesses. Motin, DLS's community extension agent for Islampur Sadar UP, explained how DLS helps NGOs such as CARE and ESDO:

> NGOs come to us and we talk, they tell us what problems they are facing. NGOs are involved with various departments and sectors. We try to assist them with whatever resource we have when they ask for our assistance. We often send resource person to conduct a training session provided by a certain NGO. From governmental roles, we provide training and sometimes provide inputs in the presence of Upazila Nirbahi Officer and other government officers. We get vaccination from the government when their beneficiaries require vaccination for their livestock. But we must acknowledge that NGOs play a pivotal role in making development more sustainable. It will not be true if we say NGOs have not been able to make their work sustainable. They have played a huge role in raising awareness among rural population. Rural communities come in huge droves to attend trainings and they want to listen to what we have to say, and we have to give NGOs considerable credit for that. We also, as government staff, play a role in that.

People have substantial demands from government agencies, but they seldom meet all these demand relying solely on government resources. These government agencies are able to fulfil a significant portion of the public demand when they work with NGOs. That is why government agencies such as the DAE, DLS and others have embraced partnership with

NGOs. Anowar, ESDO staff in-charge of implementing SHOUHARDO III, explained how they support DLS through the project:

> In a meeting at the Islampur Upazila, the Upazila Livestock Officer informed us that DLS had very little coverage for cow vaccination and can SHOUHARDO help in any way. I asked our beneficiaries and other community members to bring their cows to the vaccination camp of DLS. The local DLS has the good intention of helping the cow owners but they do not have the necessary manpower and the project is helping them in this regard. We won't say we have achieved great success in cow and goat vaccination but we are able to do the essential, which is required for the beneficiaries to nurse their livestock and boost production.

In addition to support from government agencies, unimpeded implementation of a development project hinges on the level of support given by members of local community and local politicians. Community support is attained by giving community members a say in the project where their advices and opinions are taken into consideration. A development project enjoys some distinct advantages when NGOs and development organisations work in accordance with the community. Firstly, the community in question starts to see the project as their own instead of viewing the project as a handout given by unknown people. Secondly, NGOs and development organisations related with the project are given access to the inner circles of the community. And thirdly, the community lends distinct resources to the project that are vital for its smooth implementation. The development projects investigated in this study address many complexities imposed by climate change that effect vulnerable and poor communities. The Government of Bangladesh has stressed the importance of involving communities while making climate change investments, learning from the community to capitalise on its knowledge of the local environment and ensuring climate change investments meet the needs of the communities (MoEF, 2009).

Inclusion of local stakeholders in the project makes it easier in identifying key issues in the local community. Moreover, involvement of community members facilitates the transfer of resources and knowledge to target beneficiaries that is one of the major objectives of a development project. Success of a development project often depends on the identification of cultural and political factors relevant to the project site and the local community plays a crucial role in identifying these factors (Saad, Cicmil, & Greenwood, 2002). It is not that

local community members should be involved only during initial planning and implementation phase of the project. But members of the local community should be an integral part of the project as illustrated by the following examples.

All the projects covered in this study, more or less worked with influential members of the local community. But UMIMCC and SHOUHARDO III have exhibited notable outreach and cooperation in this regard. In case of UMIMCC, instead of selecting a vendor for carrying out the infrastructure work in the slums, GIZ opted to get the work done by Caritas. Though Caritas is a highly reputable NGO with infrastructural works in many areas of Bangladesh, it did not have experience of infrastructure work in Khulna slums. The NGO was very worried about the security in the slums as theft of expensive construction materials is very common. The CDC members, who are also community leaders, were aware of this risk and they arranged for security to deter theft. As a result, not a single brick was stolen and Caritas was able to complete the work without having to buy additional construction material. The CDC members are community leaders who have earned their place through years and years of selfless hard work for community welfare. It is quite obvious to have a communication gap between project beneficiaries and an international development organisation such as GIZ owning to a lack of interaction. CDC members expertly bridged this gap by playing the role of a communication channel between project beneficiaries and GIZ officials. The voluntary support given by the CDC members has been fundamental to the success of UMIMCC.

With regards to SHOUHARDO III project, from the very outset CARE and ESDO were very transparent with the local elected politicians. Out of 12 Union Parishads (UPs) of Islampur Upazila, 5 UPs were included in SHOUHARDO III. After selecting the UPs, staff members of ESDO and CARE sat down with the respective UP chairman and members, and selected villages that are extremely vulnerable to climate change. Selection of beneficiaries from these villages was also done in accordance with village inhabitants and respective UP members. Such openness and cooperation have motivated the local politicians to extend support to the project. Referring to this congenial partnership with the chairman of Islampur Sadar UP, Mokarram who is CARE's staff member responsible for monitoring the project in Islampur Upazila, said:

> He is a very active chairman and he supports us a lot. He is very positive and has participated in every step of the process. He wanted us to include more wards of his UP but we could only accommodate three and he never

> complained. Though he has a very busy work schedule, he always gives us time. Today he took this meeting with us in one hour notice and he did not attend a meeting in the Upazila for us.

During my meeting with Shahbaj, the chairman of Islampur Sadar UP, I enquired about his opinion on certain issues about SHOUHARDO III project. ESDO and CARE employed a criteria, village inhabitants and respective UP members to select poor and extremely poor households in the project. The UP chairman did not have any role to play here and I asked him whether he should have been given an opportunity to give inputs in the process. Shahbaj replied instantly:

> The project staff are responsible for selecting the beneficiaries and they don't ask me anything. They only ask for my signature to get the selection confirmed. What they do is absolutely right and to be honest I don't need to know who the beneficiaries are. They are helping the poor people in my UP and I am happy with that. I have no role in selecting beneficiaries.

Actively Removing Barriers

Besides the above four generic factors, NGOs and project stakeholders are often called upon to take important contingency decisions and formulate a plan for sustaining project benefits after the phasing out of the project. Depending on the context and situation these solutions may include modifying project components, provision of additional assistance and having a sound exit strategy. Context specific solutions or more focused interventions might be required towards the beginning of the project or halfway during the project, while some mechanism should be left on the ground to ensure continuation of project benefits post-project.

In their New Zealand research exploring factors contributing to successful outcomes for Maori students in tertiary institutes Greenwood and Te Aika (2008) found that some mature students who had family responsibilities found it difficult to balance study, family and work (p.92). This prompted some institutes to offer flexible class schedules and economic support in the form of paid study leave, which enabled these students to concentrate fully on their study. Though the context and issues addressed by the four New Zealand tertiary institutes have little resemblance with those of the five development projects investigated in this study, they share one similarity. The tertiary institutes working in New Zealand and the NGOs working in Bangladesh, all had to work in an evolving and dynamic context that often

required quick fixes. With regards to development projects helping vulnerable communities to cope with climate change in Bangladesh, the implementing NGOs and project partners must have the ability to come up with locally suited solutions to address emerging problems. Such nimbleness demands the organisations to have willingness and the ability to think outside the box when needed. This is a high level skill that is seldom found in NGOs and development organisations regardless of being local or international in my opinion.

A development project may contain adequate components to address needs of the beneficiaries. But some beneficiaries may require more focused interventions to match their socio-economic conditions. This happened in SHOUHARDO III project where housewives with very little land ownership were offered a range of non-farm occupations. ESDO staff members intended to train these women in tailoring, bamboo and rattan works. Rural Bangladeshi housewives usually have to take care of young children, elderly in-laws, cooking, cleaning and doing household chores. It was not possible for them to travel to Islampur Upazila for attending training sessions for these occupations. Moreover, they were sceptical whether they could invest enough time on these occupations considering their workload in the household. ESDO informed CARE staff members about the issue that prompted them to include another livelihood option suitable for these women. They floated the idea of handicrafts for making *nakshi katha* that was more practical for these beneficiary group and provided in-house training. Beneficiaries started getting work orders from various boutiques and started to earn 2000-2500 *taka* per month since *nakshi katha* is a highly sought-after speciality product. Women engaged in handicrafts work earn much less than women involved in tailoring but it must be considered that these women never earned before. This occupation was suitable for these women for two reasons: they had to invest very little amount of money and they could work from their home while maintaining their households and families.

The above incident showcases the need for a context specific solution at the outset of a development project. Additionally, implementing NGOs and other project partners often have to address unique requirements during halfway of the project. The Reclaim project, implemented by Shushilan, provided various support to beneficiary farmers that included managing freshwater source in the homestead, using saline-tolerant seeds, providing guidelines for applying fertiliser and insecticides. All the above issues seemed to work well except the usage of insecticides. Using appropriate insecticides and applying correct dosage are vital for having a good harvest. DAE officials associated with Reclaim project found that

beneficiary farmers often used insecticides that were not advised by them. A local insecticide dealer might not sell the particular group of insecticides advised by DAE officials. Beneficiary farmers tended to buy from these dealers for two reasons: they were located close by and farmers were given the option to pay later. Some behavioural traits of the farmers created a barrier here as well. Since the majority of the farmers are illiterate or poorly-educated, they would often miscommunicate the problem with the insecticide dealer. Munem, staff member of Shushilan, clarified this issue:

> The miscommunication often caused dealers to sell wrong insecticides to farmers. If a farmer applies pesticides to a fungus infested paddy field, it would not bring any benefit while harming the crops even further. We had to work with DAE officials to address this problem.

In addition to advising about the appropriate group of insecticide (i.e. carbofuran for getting rid of brown planthopper), DAE officials started to include multiple available brands for that group of insecticide (i.e. Furacarb 3G, Iridon 3G or Furataf 5G). This step proved to be helpful for beneficiary farmers and they started to deal with infest attacks with much better results.

Finally, often benefits generated by a development project tend to fizzle out when the project comes to an end. Development organisations, NGOs and development projects have different characteristics than other organisations and conventional commercial projects (Golini & Landoni, 2014). As a result, evaluation of a development project involves more complexities. Moreover, very few NGOs, project stakeholders and donors conduct post-project appraisals after executing a development project (K. Ahsan & Gunawan, 2010). It is evident that very few projects contain any mechanism to ensure continuation of project benefits post-project. All development projects are executed for a stipulated amount of time. NGOs, development organisations and donors transfer or let go staff members associated with a completed project. There is usually no one to see what happened with those completed projects as NGOs, development organisations and donors move onto execute new projects. This is comparatively less of an issue for development projects that focus on training or growing soft skills in beneficiaries. Working with farmers to improve their farming practices in an era of climate change, helping rural women to increase their income through various occupation or helping climate migrant to acquire vocational and technical skills - these progresses are much more likely to stay with beneficiaries after project completion. However, development

projects that focus on improving infrastructures, need to instil mechanisms during implementation stage to ensure functionality and maintenance of those infrastructures post-project.

With regards to UMIMCC project, GIZ and Caritas took appropriate measures to ensure the usability of slum infrastructures post-UMIMCC. It is quite customary to have beneficiaries involved in the construction process of building such infrastructures, which allows beneficiaries to acquire skills through working and have income during construction. But GIZ and Caritas went above and beyond with UMIMCC and placed slum dwellers in the driver's seat. They encouraged slum dwellers to come together and gave them opportunity to decide what needed to be done to improve slum environment. While keeping a strong hold over construction works and ensuring high quality, Caritas made a point of including slum dwellers in every aspect of the work. It was the slum dwellers who decided which infrastructures were needed and their locations, carrying out construction works, using high quality construction materials, assuming responsibility of infrastructures after completion, undertaking maintenance and repair. All the work was paid by the project but slum dwellers developed an attachment with these infrastructures. KCC also helped slum dwellers with maintenance and repair works when needed.

Slum infrastructure development projects are easily found in various Bangladeshi cities. NGOs would go there either funded by national or international donors and implement a range of slum upgradation measures such as building toilets and bathrooms, constructing drains and walkways, setting up tube-wells and garbage disposal facilities and repairing old infrastructures. Sometimes such slum improvement projects are undertaken by municipal corporations and other government agencies. All these newly developed and repaired infrastructures would function well for 2-3 months. But after that they tend to break down and coupled with an absence maintenance provision, these infrastructures become useless within a year. Researchers have shed some light on the difficulties associated with such slum improvement projects: differing expectations among project implementing partners (I. Ahmed, 2016), little coordination between municipalities, NGOs and donors (Habib, 2009), and lack of clear strategies for ensuring functionality and maintenance of slum infrastructures (Siddique et al., 2002).

Aware of such complications, GIZ took the role of a facilitator instead of taking an overbearing stance as the manager of funds and main coordinator. GIZ nurtured a collation of

municipal authority-implementing NGOs-community members-slum dwellers that ensured the maintenance and functionality of slum infrastructures. During the construction, a PIC (Project Implementation Committee) was formed in each of the slums to oversee infrastructure work. These PICs were converted into IMCs (Infrastructure Management Committees) when the construction were completed. The finished infrastructures were handed over to these IMCs and KCC who assumed the responsibility of maintenance and repair. I conducted my fieldwork ten months after the slum infrastructures were handed over to KCC and IMCs, and I found all infrastructures functional and well-maintained.

The Way Forward

Like any theoretical framework, I offer this framework as a provocation rather than a template for organisations and NGOs concerned with international development projects. It needs to be acknowledged that a successful development project is not capable of helping everyone, nor it can stop the problems of global warming and climate change or remove all gaps between rich and poor. How people adapt to climate change varies depending on context and changes that happen over time and adaptation strategies might differ within homogeneous societies (Malone, 2009). In order to help these communities it is imperative to understand the effects of climate change on the environment and peoples' behaviour towards adapting to climate change (Ayeb-Karlsson et al., 2016). Development organisations and NGOs must be aware of people's adaptation behaviour corresponding to the changing environment and accordingly design and implement development projects. Maintaining close working relationships with government agencies and local community helps implementing organisations in this regard.

Though the five success factors are separate but there are interlinks between them. For an instance, if a development project does not address the key community needs (i.e. local relevance), it will most probably receive very little community support (i.e. support from the top), and the benefits generated by the project will dry out once the project fund is depleted (i.e. actively removing barriers). On the other hand, alignment with one of the success factors might lead to convergence with the other success factors. Development organisations may consider these success factors and sub-factors during design and implementation phase of development projects intended to help marginalised Bangladeshi communities vulnerable to climate change. These factors and sub-factors may also be used by development organisations implementing projects addressing different issues in countries with somewhat similar socio-economic conditions to that of Bangladesh.

Chapter 9: Conclusion

The threats associated with climate change are no longer a projection for Bangladesh as they already shape the lives of millions of poor Bangladeshis. The country aspires to be a developed nation by the year 2041 but climate change effects have the potential to derail the desired progress. The Government of Bangladesh, as well as the foreign donors, development partners, NGOs and civil society are well aware that climate change is just as much a developmental issue as it is an environmental concern. By making the environment more unstable, climate change is adversely affecting livelihood and overall lives of the poorest Bangladeshis. When these people take one step towards a prosperous future, a devastating storm, flood, salinisation or riverbank erosion puts them two steps back. As a result, a throng of international development (ID) projects have been executed across the country to better equip vulnerable communities to cope with the changing climate. The five development projects investigated in this study have generated varying degree of success for the beneficiaries. Although Bangladesh often serves as a lab for development work, there is noticeably little research that tell us what works in development particularly in the area concerning coping with climate change.

With regards to development projects in general, Diallo and Thuillier (2005) noted from their study involving various development projects in Sub-Saharan Africa that project officials mainly use two criteria to assess project success: project management issues related to time, cost and quality and project profile with regards to garnering visibility and reputation by the project. Much less emphasis is given on project impact that "captures the performance of the project with respect to its objectives" (p.239). This is also true of development projects implemented in Bangladesh that emphasise adapting to climate change, where little is known about the factors that make these projects effective and successful for the intended beneficiaries. This study investigated the selected development projects to contribute to this knowledge gap through qualitative field research complemented by secondary information available from the projects. As detailed in the previous chapter, it has been possible to propose a theoretical framework containing five overarching success factors that might be organisationally usable for development organisations, NGOs, government agencies and other stakeholders of a typical development project addressing climate change issues in Bangladesh or similar countries.

This final chapter summarises the importance of successful development projects in making marginal communities more resilient against climate change and improve other aspects of their lives that make them less vulnerable to natural hazards. It draws from the five development projects of this study and offers recommendations for NGOs, the government and donor organisations. It then suggests directions for further research and concludes with reflection that I have amassed by investigating these development projects.

Key Aspects of the Study

Success of a development project is synonymous with the prosperity of its beneficiaries, which is dependent on how well a project is designed and how well it is implemented. Finding a stable livelihood is not easy for a poor Bangladeshi regardless of living in a village or in an urban slum. Climate change has imposed added pressure on traditional rural livelihoods that have forced rural communities to modify existing livelihoods and to look for diversifying work opportunities. Many rural Bangladeshis have been forced to leave their traditional abode in villages and migrate to urban slums. In urban cities, it is relatively less difficult for climate migrant to secure employment if he/she is skilled in a particular line of work. The projects investigated in the study have been able help these people in improving their existing livelihood and promote new ones that have made them more resilient. In addition to improving livelihood aspects and increasing income of the beneficiaries, some of these projects have been able contribute significantly by building vital infrastructures in urban slums and villages located in deep *haor* areas, improving health and nutrition practices, empowering women, assisting government agencies (i.e. DAE and DLS) to provide better services and making local government institutions (i.e. Union Parishads) more responsive to the needs of their constituencies.

In the case of the UMIMCC project, GIZ entrusted UCEP to determine the occupations that have demand in Khulna. Moreover, UCEP assisted trainees to look for work after graduation and placed some trainees through internship arrangements. However, in the HILIP project, neither LGED nor their training partner provide any such post-training support for graduates. It is well-researched that government agencies in Bangladesh are characterised by lack of intuitional and organisational capacity (Rawlani & Sovacool, 2011), this is true for LGED as well despite its massive coverage in the country. It might have been better for HILIP if it was implemented by a more capable local or international NGO or development organisation, while having LGED play a role of the monitor. The UMIMCC project was implemented by GIZ, Caritas and UCEP while keeping the government agencies (KCC and DSS) in

monitoring roles. A similar organisational set-up would have made HILIP much more useful for its beneficiaries. LGED is renowned for its engineering and construction capabilities which could have been used for building the guide-walls that are exposed to very harsh weather conditions. Interestingly enough, LGED and IFAD (HILIP's main donor) entrusted the completion of this crucial task to the villagers who did not have any prior experience of building such vital infrastructures.

Both Reclaim and SHOUHARDO III projects placed greater emphasis on the needs of their beneficiaries and offered interventions accordingly. Whereas the PAP project partially understood the needs of it beneficiary farmers and relied more on a top-down intervention. Practical Action implemented the PAP project with all the right intentions of increasing farmers' income, but lesser engagement with the farmers and absence of consultation with the local community and agricultural experts (i.e. local DAE officials) led to project interventions that did not entirely match with the motives and profit aspirations of beneficiary farmers. As a result, production of pumpkins played a marginal role in increasing earnings of the farmers while the farmers placed more emphasis on cash crops (i.e. peanut, onion, potato and watermelon) that they produced independently. Instead of prioritising the needs of the beneficiary farmers, the PAP project seemed to be more aligned with the priorities of the funding agencies.

Significance of the Study

Climate change is critically impacting livelihood prospects, housing, food safety, health and access to basic services for the most vulnerable and marginal communities in Bangladesh. These communities are well aware of the fact that they played a miniscule role in creating this worldwide problem. They know that they must play the role of change agents that will facilitate their adaptation to climate change but they need all the help they can get. Being a developing country, it is not possible for Bangladesh to provide all the needed help for the vulnerable communities, hence the importance of development projects. From this study it is evident that well thought-out and well-executed development projects assist vulnerable communities mainly in two ways: fostering livelihoods that are more resilient against climate shocks and addressing the issues that make these communities more vulnerable to climate change in the first place.

These development projects have encouraged their beneficiaries to embrace agricultural practices to cope with riverbank erosion, salinity and flooding conditions and make use of

every inch of arable land. For people who have little farmland, they have been shown various ways to develop their livestock assets. Aside from on-farm and off-farm livelihoods dependent on weather and climate, many beneficiaries, particularly women have been trained in non-farm trades (i.e. dressmaking and tailoring) leading to augmented income. The findings of this study reiterate the fact that vulnerable communities are more resilient when they are involved in multiple income generating activities. Such multiple sources of income lead to livelihood resilience, which empowers people to transform available resources into secure livelihood under the duress of weather shocks (M. Sarker et al., 2019) and encourages people to act individually as well as collectively by prioritising their freedoms and entitlements (Tanner et al., 2015). This can also be extended for climate migrants who arrive in urban cities in search of shelter and work. The UMIMCC project was able to increase vocational skills of climate migrants. As a result, graduates of UMIMCC were able to find suitable employment.

The core objective of all the projects investigated in this study was to help vulnerable communities in strengthening their livelihood in the face of climate change. But some of the projects made a concentrated effort to improve other aspects of the lives of the beneficiaries. The SHOUHARDO III project has played a significant role in women empowerment, child nutrition and weather awareness. The Reclaim project organised numerous grassroots groups involving farmers, youths and women that prevent child marriage, violence against women and other social injustices. In addition to developing slum infrastructures, the UMIMCC project trained slum dwellers in better hygiene practices. Communities, either living in urban or rural Bangladesh, are better placed to cope with climate change when women are empowered and have opportunity to excel in life, children are less susceptible to diseases, and slum dwellers have access to sanitation facilities and others.

I would like to draw a hypothetical situation to illustrate the importance of preventing shocks in the fight against climate change. A circle of consequences start when a child gets sick in a typical poor family in Bangladesh. Taking the child to a doctor, doing tests and buying medicines require money. Carrying out all of these activities means that parents are unable to do any work that results in loss of income for a couple of days. Poor families have very little savings for such unforeseen events. The common course of action is selling off an asset (i.e. livestock) to generate emergency cash. As found in the study, development projects, particularly those working with communities vulnerable to climate change, are more useful when they help beneficiaries to make an effort to reduce such risks. The five overarching

success factors and their sub-factors propagated in the theoretical framework can assist development organisations, NGOs and government agencies to address the needs and risks pertinent to marginal communities in better ways.

Recommendations

The findings of this study suggest the following recommendations for NGOs, the government and donor organisations.

For NGOs

Securing funding for development projects has become challenging as donor agencies are increasingly looking for results for their funding. To justify continuation of their projects, NGOs nowadays are compelled to produce desired results amidst challenges and barriers. Being the fertile land for NGOs, there is fierce competition among NGOs operating in Bangladesh for funds. Being informed from the findings of this study, the following recommendations are made.

1. NGOs need to actively listen to and actively engage with the various sectors in their communities.
2. NGOs need to develop a congenial working relationship with government agencies and other NGOs involved in similar activities to increase effectiveness of their interventions.
3. NGOs need to develop and present plans to secure funding for a yearlong phase out process.

For the Government

It must be acknowledged that the Government of Bangladesh has taken numerous steps for addressing climate change threats. Although the government provides considerable funding for NGOs, it has come under some criticism for allocating funds for bizarre and unnecessary projects. As various sectors of the country have been gripped by the covid-19 slowdown and require assistance from the government, the government might exercise detailed deliberation in making funding decision in projects. Therefore, the following recommendations are made.

1. The government should give priority to funding and supporting projects addressing the plights of marginalised communities that are overwhelmed by climate change.

2. Increased allocation of resources should be made to government extension agencies such as DAE, DLS, DoF as this will not only benefit development projects but also be beneficial for rural communities.
3. More autonomy and resources should be granted to elected local government bodies, such as the City Corporations and Union Parishads, to enable them to provide better services for their respective constituencies.
4. Climate change considerations should be incorporated into formulation of key policy positions with regards to economy, environment, agriculture, food security and internal migration.

For Donor Organisations

As bilateral and multilateral donors provide funding for development projects in various countries, some donors show a tendency to push similar projects in multiple countries. When a project, implemented in a particular country shows encouraging results, donors often rush to implement the same project in similar countries without fully understanding the necessities and conditions of each specific country. In development it is often tricky to find out what works, where it works and why it works (Hobbes, 2014). Therefore, for donors, the following suggestions are made.

1. Donor organisations consider the reputation and track record of partner NGOs and government agencies when making funding decisions.
2. Native staff members who speak the local language and have better understanding of local conditions should be included in field visits of donor organisations.
3. Staff members of donor organisations should engage with project beneficiaries and implementing partners in a friendly, interactive and insightful manner.
4. Donor organisations need to maintain close communication with members of local community and relevant government officials.

Directions for Further Research

Very little research can be found on the efficacy of development projects in Bangladesh, even less in the case of projects working with communities vulnerable to climate change. This study draws the five overarching success factors from the work of numerous local and international NGOs, international development organisations, various government agencies, project beneficiaries and local community members. These success factors might help relevant stakeholders in making sensible decisions with regards to objectives and

implementation of development projects in Bangladesh. This study showcased the apparent successes and some shortcomings of these projects that were informed from the accounts of beneficiaries, staff members of NGOs and development partners, officials of government agencies and members of the local community. My intention was to highlight the elements that worked for the beneficiaries and understanding the underlying success factors. I would like to suggest research areas that can extend the findings of my study:

- During fieldwork I have noticed that beneficiaries tend to be more motivated when they invest a portion of their financial resources. The SHOUHARO III project utilised a partnership model in which a beneficiary had to come up with matching contribution to receive project support. In short, the project gave 3000 *taka* to a beneficiary when the beneficiary agreed to invest 3000 of his/her funds in the selected occupation. This understanding ensured only highly motivated beneficiaries were getting involved in the project. In case of the PAP project where 100% of the support was provided by the project, beneficiaries did not have to invest any money from their pockets. I found the beneficiaries of the PAP project much less driven from the beneficiaries of the SHOUHARDO III project. This is very similar to the results of Habitat for Humanity in the US where the model is that recipients of a house have to put in "sweat equity" in helping to actually construct the house (Habitat for Humanity, 2020). This is contrasted with the negative behaviour that has been noted with people who receive housing with no requirement that they provide some kind of contribution to it. There needs to be more research on the motivation and intentions of project beneficiaries
- The role of NGOs in market linkage activities. NGOs do not have to assume a crucial role in value chain activities. But they can certainly play a role in fostering a more equitable space for farmers and traders. It was successfully done by ESDO in the SHOUHARDO III project. Such market linkage activities have potential and they need to be studied more
- NGOs and development organisations often reach out to relevant government agencies only after a project has been designed. Further research is merited to see whether involvement of government bodies in the design phase improves effectiveness of projects

Afterword

As I near the completion of this thesis I would like to reflect on my journey as a researcher throughout the entire study. This journey of three years and nine months have enhanced my understanding of my professional identity as a development professional and a researcher, as well as my ability to impact practice.

Looking Back at My Research Journey

Recently I was invited by a friend to live in her house in Northland, New Zealand. The house had a small patch for growing vegetables and fruits. She also had three hens, a front lawn and an array of plants. She taught me to prepare the land for planting seeds, taking down banana trees, feeding the hens, mowing the lawn and other activities typical of a suburban house. Though I had worked in rural locations at various capacities in Bangladesh, this was the first incident where I got down to the soil and literally dirtied my hands. In the first week I felt little uncomfortable as I never did any farm work before. But in the second and third week I started to get the feel for it and became quite comfortable with all chores especially with farming.

I believe climate change, development projects, learning and research should take a similar approach – getting right down to the grassroots and getting involved. With regards to the consequences of climate change and the marginal communities paying the highest price, in Bangladesh, research has mostly focused on cause and effect of climate change. While very little research has been carried out to investigate how communities are learning to live with climate change. My research delves into various coping mechanisms that are being embraced by these communities in both rural and urban settings. At the beginning of the PhD, my supervisors repeatedly advised me to go in the depth of these issues and investigate the success stories as well unsuccessful ones. This approach has generated all the findings in this study. Climate change is not just an environmental issue for the communities studied in this thesis. These are personal and emotional issues that needs to be collected, understood and presented by research. Being a researcher at infancy level, I would encourage fellow researchers to go beyond spreadsheets, randomised controlled trials (RCTs) or 5-10 pages long questionnaires. Quantitative data is very important but it only tells half the story. The other half is found in the *how*, *why*, *who*, *when* and *how not* or *why not*, which can be found through qualitative research that gives a strong voice to the research participants.

My On-going Role in Development Projects and Research

I am developing my expertise in the field of international development projects and investigating their role in assisting marginal communities to cope with climate change in developing countries. Development projects often show a tendency to be less impactful but if well planned and managed, they can work. Success is complex and showing the different opinions and experiences of what 'success' is would be something to add to the literature for how these development projects work, especially in Bangladesh and about climate change. Looking at successes in development projects may be more useful in the long term than only looking at failures. My career goal is to communicate these success stories, evidences of success as well as failures that are generated from grassroots and communicate them through publications so that they can be used in similar context by vulnerable communities, researchers and development practitioners.

This thesis makes contribution to knowledge informed by sound qualitative research methods using multi-case study analysis, direct observation and semi-structured investigative interviews with a range of stakeholders including opinion formers. The research question and resulting analytical sub-questions have served as tools to create and adapt a theoretical framework for the consideration of success factors required for international development projects. There is a necessity to apply both micro-approach and macro-approach adequately for addressing the implications of climate change. While meeting the local needs of the vulnerable communities, there must be a centralised approach to the broader, long term climate threats. The global nature of the problem also requires regional and international approach. Since there is a significant communication and interaction gap between climate change community and development practitioners, I want to work as a development professional involved in development projects while publishing about their effectiveness and impacts on project beneficiaries. It is my aspirational goal to reduce the gap between practitioners in the ground and academics.

Final Comment

There is a need for Bangladesh to be more in charge for addressing the problems imposed by climate change on its people. Excessive reliance on international forums might lead to laxity in its own activities to take on climate change. The Government of Bangladesh is aware that coping with climate change requires a combined effort with local and international development partners, foreign donors, NGOs and the vulnerable communities. The

government has seldom stood in the way of NGOs and development partner and provided all necessary support to these organisations. But there is a tendency in the government to push for unnecessary development projects that are usually promoted for political gains. Such projects may provide some benefits in the short run but end up being harmful in the long run. NGOs and their development partners often show a preference for including as many beneficiaries as possible. This attitude often leads to waste of learning opportunities and resources. A beneficiary improves in terms of livelihood, skills, hygiene practices, weather awareness and sense of equality when he/she is trained and followed up for a number of years. Merely providing support for a year or so and letting the beneficiary go on his/her merry way might not contribute to any meaningful change. The practice of taking comparatively fewer beneficiaries and providing training and learning for longer periods are likely to generate better outcome in the fight against climate change.

Climate change is severely affecting the lives of poor people of Bangladesh. The situation demands an integrated approach to learning, capacity building, assuring genuine representation of marginal communities in decision-making, well thought-out interventions and efficient implementation involving local communities, NGOs, international development organisations, government agencies and foreign donor. As discussed in throughout this study, marginal communities can be assisted to cope (even thrive) with climate change by development projects that are relevant to the needs of the people, are open to learning among project stakeholders, possess adequate knowledge and capacity at all levels, are supported from the top and grassroots, and have willingness to adjust to a changing context and have a foresight to ensure sustainability. Development projects having many aspects of the five success factors propagated in this study might not solve all the problems of poverty, inequality or illiteracy but they can certainly help beneficiaries to cope better with climate change.

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Glossary

Bangla	English
Bigha (বিঘা)	equivalent of .33 acre or 33 decimal of land
Boro (বোরো)	one of the most commonly cultivated varieties of paddy in Bangladesh
Char (চর)	sandbar emerging in the riverbed or adjacent to the riverbanks during winter and dry seasons in Bangladesh
District (জেলা)	Bangladesh is divided into 64 districts for administrative and governance purpose
Gher (চিংড়ি ঘের)	a modified field for cultivating shrimps
Haor (হাওড়)	a bowl-shaped ecosystem in north-eastern Bangladesh that stays inundated during monsoon
Maund (মণ)	40 kg equivalent in most places, while 37.32 kg in some places of Bangladesh
Nakshi Katha (নকশি কাঁথা)	a hand-embroidered quilt native to Bangladesh
Sonar Horin (সোনার হরিণ)	Something elusive and highly desired
Taka (টাকা)	Bangladesh currency that is referred to as BDT
Union Parishad (ইউনিয়ন পরিষদ)	serves as the smallest tier of local government administration for ensuring smooth government service delivery in rural Bangladesh
Upazila (উপজেলা)	is a form of administrative demarcated region structure used in Bangladesh, devised for ease of governance. There are 492 Upazilas in Bangladesh

Abbreviations

DAE	Department of Agricultural Extension
DFID	Department for International Development
DLS	Department of Livestock Services
DSS	Department of Social Services
EPA	United States Environmental Protection Agency
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoB	Government of Bangladesh
IFAD	International Fund For Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
KCC	Khulna City Corporation
LGED	Local Government Engineering Department
MoEF	Ministry of Environment, Forest and Climate Change
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UP	Union Parishad
USAID	United States Agency for International Development

Appendices

Ethics Approval

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: 2017/49/ERHEC

8 December 2017

Khonker Taskin Anmol
School of Teacher Education
UNIVERSITY OF CANTERBURY

Dear Khonker

Thank you for providing the revised documents in support of your application to the Educational Research Human Ethics Committee. I am very pleased to inform you that your research proposal "Education in the Face of Climate Change: the Work of NGOs in Bangladesh" has been granted ethical approval.

Please note that this approval is subject to the incorporation of the amendments you have provided in your emails of 24th November and 6th December 2017.

Should circumstances relevant to this current application change you are required to reapply for ethical approval.

If you have any questions regarding this approval, please let me know.

We wish you well for your research.

Yours sincerely

pp R. Robinson

Dr Patrick Shepherd
Chair
Educational Research Human Ethics Committee

Please note that ethical approval relates only to the ethical elements of the relationship between the researcher, research participants and other stakeholders. The granting of approval by the Educational Research Human Ethics Committee should not be interpreted as comment on the methodology, legality, value or any other matters relating to this research.

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